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PERENNIAL PEAS



MARCH, 1885.

THE ANNUAL MEETINGS of the horticultural societies the past winter have been reported as of great interest, and there is good reason to think that gardening art is, year by year, receiving more and more attention. The Western New York Horticultural Society was convened in this city on the 28th of January, it being the thirtieth annual meeting. P. BARRY, who for many years, and, in fact, from the first formation of the Society, with the exception of a few yearly intervals, has with the highest ability filled the office of President, was again elected to the same position. The extracts below, from his opening address, will be found of general interest.

"It will certainly do no good to grumble and complain of hard times, trying to make ourselves believe that times are worse than they really are. Let us rather bring to bear on our respective pursuits increased skill, energy and perseverance. We must be prepared for these periods of depression, 'hard times,' for they are sure to come sooner or later, and generally sooner. The preparation we need to make is to become first-class cultivators. Poor farming, poor fruit growing and gardening, will always fare badly in hard times."

In regard to the fruit crops and fruit culture, he said: "Crops of nearly all kinds were abundant. After three years

of comparative failure, we had an immense Apple crop in most parts of Western New York. As might be expected with existing business depression at home and a very light foreign demand, prices have been low, but certainly not lower in proportion than other farm crops. The Plum and Pear crops were good and realized fair prices. The Grape crop was excellent and prices satisfactory. The small fruits were all abundant. Peaches comparatively a failure. The cold period of the last days of May, when the trees were in blossom, had a damaging effect upon the trees. A sudden fall in temperature from 82° to 33° is more than the Peach can endure without great injury at that season. It would be instructive to know what varieties passed through this ordeal with the least injury.

"The Apple is our staple fruit in Western New York, and after three years of failure of the crop the prices have been somewhat discouraging. It must be said, however, that a large portion of our Apple crop was not up to the usual standard of excellence, very much not fit to go into market as first-class fruit. The main cause of this was that the trees were heavily loaded and poorly fed. We have good orchardists in Western New York, and many of them, but I must say, and I say it from actual observation, that a large number of our orchards are in a

very low state of cultivation, neither creditable nor profitable to the owners.

"Without attempting any details of orchard culture, I would say that to make orchards productive and profitable, the fertility of the soil must be maintained by the use of suitable fertilizers, so that the trees will make a vigorous annual growth. Judicious pruning must be given, and insect enemies kept in subjection. Then when the fruits are grown and well grown, they must have proper care in gathering, assorting, packing and marketing. All these require skill and watchfulness at every step. Orcharding, even in our favored section, cannot be made profitable without thoroughness in every detail. The best method of preventing the ravages of the codlin moth is still a matter of anxious inquiry and experiment. The efficacy of Paris green and other poisons, as well as the propriety of using them, are still open questions, and can only be answered satisfactorily by careful experiment. Thus far I think experience favors the use of Paris green, when used with judgment and care.

"Pear culture is making moderate progress. The Pear will not bear neglect even as well as the Apple; this has been pretty well determined. For this reason I think that wherever Pear culture is attempted it is done at least tolerably well. With all the experience we now possess in regard to varieties, soils, and modes of treatment, Pear culture in Western New York is not difficult. The disease known as the 'Pear blight' is being actively investigated by competent persons, and we may reasonably hope that at no distant day it will cease to be a mystery. Happily for a few years back it has been less destructive than formerly, and does not seem to be regarded as a formidable difficulty in the way of Pear culture.

"Plum culture is being rapidly extended, and is generally in the hands of good cultivators. We hardly hear of the curculio.

"The Cherry, as a market fruit, is in a great measure neglected. The chief difficulty in Cherry culture is the rotting of the fruit on the tree in certain conditions of the weather—warm and moist.

"Peach growers, in some parts of the State, are alarmed at the prevalence of that disease known as the 'yellows.' Whatever may be its origin, my opinion

is that it has been spread in a great measure by propagating from diseased stock. Careful nurserymen are now procuring their seeds from the South, where the disease does not exist, and if this course is rigidly pursued and buds taken from none but sound, healthy trees, the 'yellows' will in a few years disappear. Like the Pear blight, this disease has been, and is now, being investigated with a view to ascertain its origin and a remedy. We hope that we may soon have some reliable information on the subject. We are making progress.

"Grape culture is making fair progress. That business seems to be now in good hands, most of the poor cultivators have gone to the wall, as they should do. The Grape is a fruit that will not bear much abuse; it must either be well grown or abandoned.

PROGRESS OF HORTICULTURE.

"The question is frequently asked, 'Are we making any real progress in horticulture?' I answer, we are; not in rapid strides, but slowly and surely. As compared with even ten years ago, there is now a much better knowledge of the particular merits of varieties of fruits. People know much better generally what to plant and how to plant. Commercial orcharding is conducted more intelligently in every department. Ornamental gardening is making progress, especially noticeable in cities and villages and their immediate vicinity. In the country, too, we find signs of improvement, but much less than they should be. Here in Western New York, where farmers are nearly all in easy circumstances, every one should have a kitchen garden, and immediately around the dwelling a well kept lawn, suitably planted with trees, shrubs and flowers. This would add wonderfully to the comforts and pleasures of farm life, would exercise a refining influence on the family and on the neighborhood, and would add a very large percentage of value to every acre of the farm. I am surprised that the farmers' clubs do not agitate this matter more than they do. Every town in Western New York should organize a local club, where none exists now, and make this work of improving and adorning the homestead a standing subject for discussion and suggestion.

"Throughout the country generally, horticulture is making fair progress. In the neighborhood of large cities wealthy men are becoming patrons of horticulture, and in many cases are spending large sums of money upon it. I am sorry to say, however, that the tendency in such places is to lavish expenditure on costly glass structures and the culture of exotics, instead of the embellishment of their grounds with rare and fine hardy trees, shrubs and flowering plants, and fine and highly cultivated collections of hardy fruit. However, people will do with their own as they please, and it is much better that they spend a portion of their wealth on horticulture, even as they do, than in some other way less beneficial to the public. Let us hope that more of the wealthy men of our country will become patrons of horticulture.

"Rose culture is a prominent feature of modern horticulture. The forcing of Roses under glass has become an immense business in the vicinity of all our large cities, and it is conceded that nowhere else in the world is it conducted with greater skill and success. The flower markets of our large cities are now well supplied with superb Roses all the year round.

"The attention which is now given to public parks and cemeteries in all parts of the country testify to the growth of taste among the people."

The following tribute to CHARLES DOWNING, one of the great lights of American horticulture, will be approved by all.

"CHARLES DOWNING, the distinguished pomologist and horticulturist, died at his residence in Newburgh, on Sunday, the 18th of January, in the eighty-second year of his age. And this was the end of a long and useful career. In early life and up to say thirty years ago, Mr. DOWNING was actively engaged in the nursery business, in which he was distinguished as well for his skill and success as a practical cultivator as for his accuracy and trustworthiness in all matters pertaining to the varieties of fruits or of ornamental trees and plants, cultivated and sold by him. When anything was purchased of CHARLES DOWNING, that alone was regarded as a proof of its genuineness. A more careful, conscientious man has never been known in that business.

"Shortly after the death of his gifted and greatly lamented brother, ANDREW JACKSON DOWNING, author of *The Fruits and Fruit Trees of America*, and of several works on landscape gardening and rural architecture, CHARLES retired from the nursery business, and from that time until his death devoted himself to the study of pomology and to the revision from time to time of his brother's great work, *The Fruits and Fruit Trees of America*. This book is regarded as the standard authority on American fruits throughout the world, and CHARLES DOWNING came to be acknowledged one of the foremost pomologists of his day. He was a remarkably modest and retiring man by nature, and, although a regular attendant at both pomological and horticultural meetings, was seldom heard to speak, except when called upon for his opinion, which he would give with absolute frankness and honesty, but in the fewest possible words. He was not in haste to form an opinion, but when once formed; he adhered to it steadfastly.

"The name of CHARLES DOWNING is familiar as a household word in every American home where an intelligent interest is taken in rural affairs, and there the news of his death will be received with sincere sorrow.

"CHARLES DOWNING took a lively interest in this society. He came here to attend its meetings year after year, a long journey, in the most inclement weather. Latterly his feeble health has prevented his attendance, but he continued to manifest a deep interest in its work, and a few weeks before his death wrote me that he would try and send some notes on fruits for our meeting, if his strength would permit. The hand of death was then upon him, he complained of weakness and suffering; now he has gone to his reward, and we can truly say that a good man has departed.

"Who will take his place, is a question that will be asked. Who keep up the standard character of *The Fruits and Fruit Trees of America*, by constant revision, as he did? It is a national work, and I trust that for the sake of the memory of the brothers DOWNING, as well as for the honor and interests of American pomology, it will pass into careful, able and loving hands, who will perpetuate it through future generations.

SNOWDROP AND SNOWFLAKES.

The Snowdrop, Galanthus, and Snowflake, Leucojum, both members of the Amaryllis family, are among the most interesting and welcome early spring flowers. The Snowdrop appears first,

suiting them, though they do not absolutely demand a well drained soil. Bulbs planted any time in the fall will come into bloom the following spring, and after once planting they can be left for years.

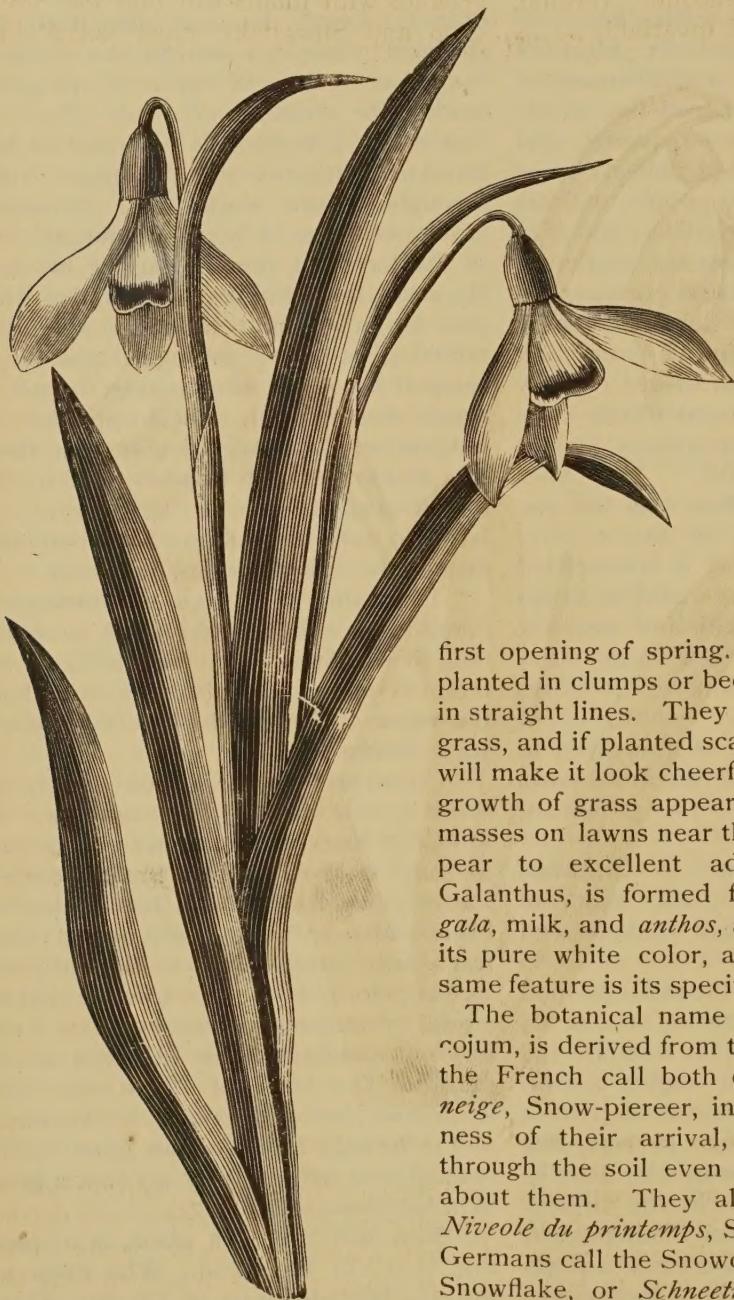
Both plants are natives of the temperate zone of Europe, and are hardy in all parts of this country, and therefore capable of surviving many adverse conditions. Beginners in flower raising need have no fear of failure with these plants through ignorance of their treatment; if planted in the fall in the garden two or three inches deep and a few inches apart they will be sure to greet you on the

first opening of spring. They look best when planted in clumps or beds rather than singly or in straight lines. They will do well even in the grass, and if planted scatteringly over the lawn will make it look cheerful even before the new growth of grass appears. Irregular clumps or masses on lawns near the borders of walks appear to excellent advantage. The name, Galanthus, is formed from the Greek words, *gala*, milk, and *anthos*, a flower, in allusion to its pure white color, and in reference to the same feature is its specific name, *nivalis*, snowy.

The botanical name of the Snowflake, Leucojum, is derived from the Greek, *leukos*, white; the French call both of these plants, *Perce-neige*, Snow-piereer, in allusion to the earliness of their arrival, pushing their foliage through the soil even while the snow lingers about them. They also call the Snowflake *Niveole du printemps*, Spring Snowflake. The Germans call the Snowdrop either *Schneeflocke*, Snowflake, or *Schneetropfen*, Snowdrop, and

the Leucojum, or Snowflake, *Schneeglocken*, Snowberry.

These plants, so much alike, have points of difference which it may be well to notice. The Snowdrop, Galanthus, has the sepals much longer than the petals, while in the Snowflake the sepals and petals are of equal length. The



GALANTHUS NIVALIS, SNOWDROP—NATURAL SIZE.

and has been appropriately called the harbinger of spring. Both of these plants are of the easiest culture, thriving in any good garden soil, and after the bulbs have once been planted they will increase and hold their places for years. A heavy soil retentive of moisture is not

petals only in the Snowdrop have their points tipped with green, while both petals and sepals of the Snowflake are so tipped. The flowers of the Snowdrop are borne single at the summit of the scape; this is also the case with the Spring Snowflake, *Leucojum vernum*, but it is not always and invariably so, as

spread, and to beautify places whose attractions are none too numerous. The plants do not object to shade, as many others do, and will send up their snow-white bells under trees and shrubs. Those who are embellishing school grounds with plants will find the Snowdrop and Snowflake most acceptable;



LEUCOJUM VERNUM, SPRING SNOWFLAKE—NATURAL SIZE.

with the Snowdrop, for not infrequently the scape of the Spring Snowflake bears a pair of flowers, and the Summer Snowflake, *L. aestivum*, is from four to eight-flowered. As these plants are so hardy and thrifty, there is no reason that they should not be plentiful not only in our gardens and on our lawns, but in country places by the roadsides and in groves, and by the sides of shady walks. A little attention given to planting the surplus bulbs of the garden in such places, would give them a chance to live and

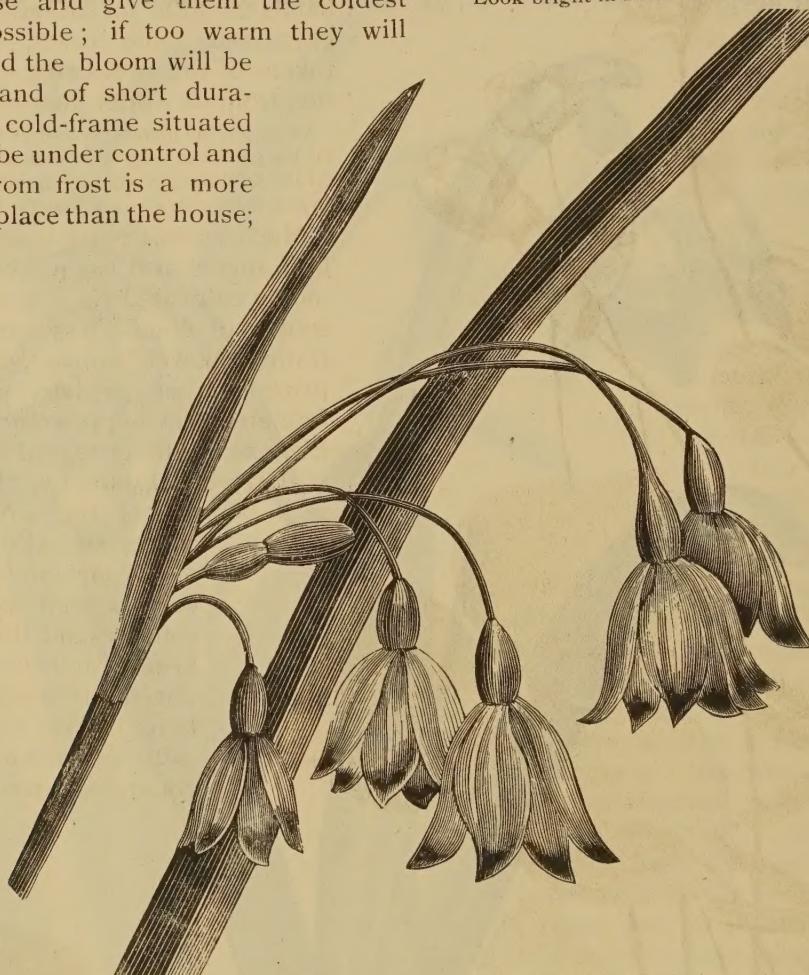
and they are exceedingly appropriate for cemeteries. After the plants have finished blooming, and the foliage begins to turn yellow, they can be lifted and divided and planted out again immediately. It is not necessary to dry off the bulbs. The bulbs can be forced for winter flowers, but they are impatient of much heat. They can be managed most successfully by potting early in autumn, placing a number of bulbs in each pot, so they will stand about an inch apart, in good strong loam mixed with a little

sand and leaf-mold, and then plunging the pots over the rims in an exposed place in the garden and leaving them until heavy frosts come; then cover them with leaves to protect from freezing, so that they may be removed late. About the first of the new year bring them into the house and give them the coldest place possible; if too warm they will decay and the bloom will be inferior and of short duration. A cold-frame situated so as to be under control and secure from frost is a more suitable place than the house;

gilded author, "who being dead yet speaketh."

The first flower of the infant year,
Through kindred snows that springeth,
Though gemmed with many a frozen tear,
Is to my musing soul more dear

Than all that gay June bringeth,
When blossomed Brier and rosy flowers
Look bright in summer sun and showers.



LEUCOJUM AESTIVUM, SUMMER SNOWFLAKE—
NATURAL SIZE.

a cold-frame having an opening into a greenhouse is the best arrangement.

While the engravings here presented were in course of preparation, the following lines, entitled, "The Snowdrop, the first flower of the year," were received in a letter from Mrs. C. P. TRAIL. They are from an unpublished poem by AGNES STRICKLAND, and Mrs. TRAIL writes: "These lines, from my dear sister, appeared to me suitable for VICK'S MAGAZINE, and may not prove uninteresting to your readers." We are sure they will be highly prized by all lovers of poetry and flowers, both for their intrinsic worth and as an inheritance from their

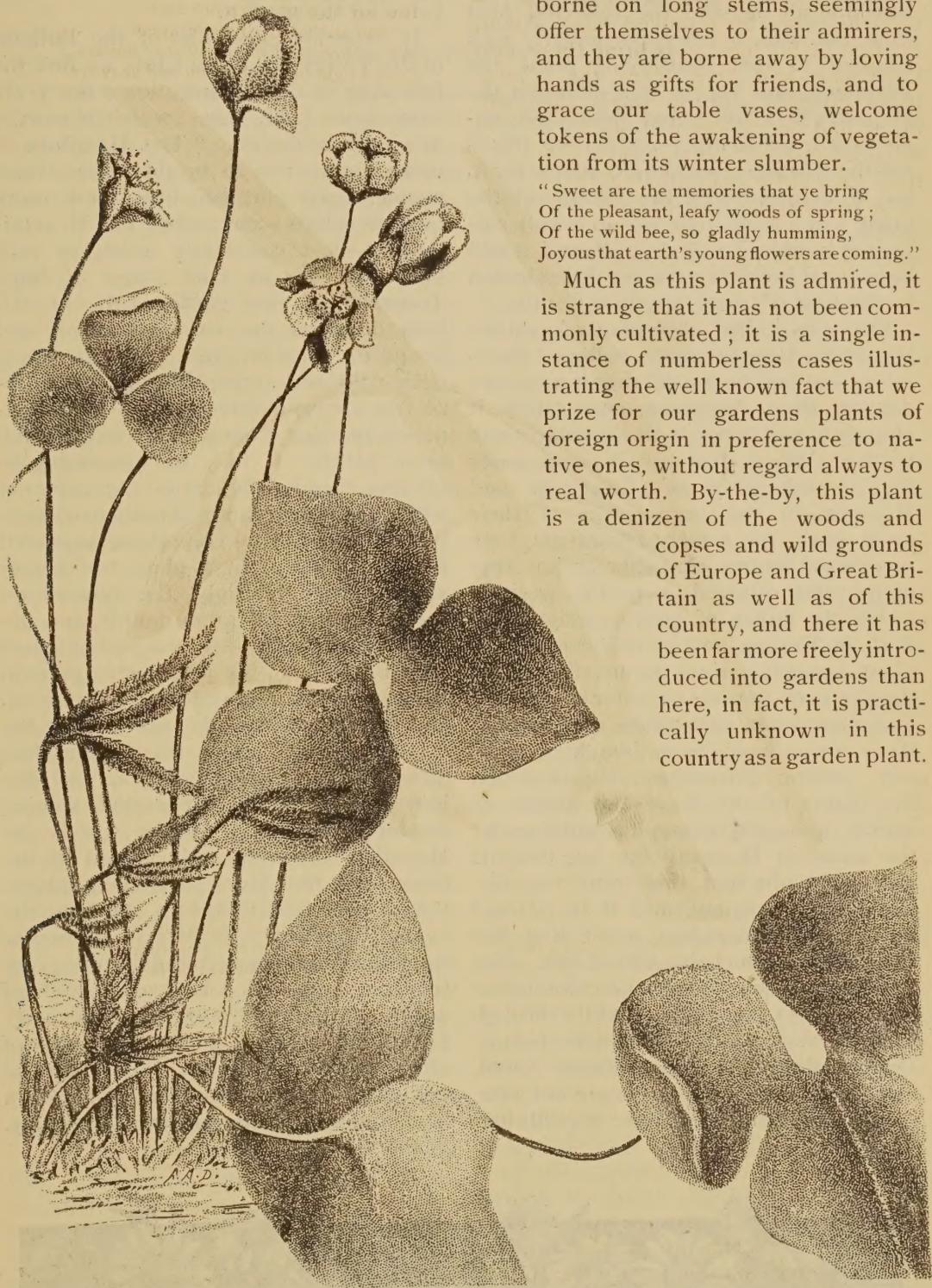
For this lone child of wintry air,
Midst adverse storms appearing,
Resembleth spirits, sweet and fair,
Who, in this world of grief and care,
Its bitter woes are cheering;
Serene amidst its ceaseless strife,
And smiling on the ills of life.

Like them thou meekly art, pale flower,
The tempest's warfare meeting;
Although the rude winds shake thy bower,
And on thy form, with ruthless power,
The icy storms are beating,
Yet, still thy oft crushed buds we see
Retain their spotless purity.

And their first pledge of coming spring,
The new-born year revealeth,
Shall thoughts of tenderer interest bring
Than all she from her lap shall fling,
When summer suns she feeleth;
For, thou dost from her leafless breast
Look forth and promise all the rest.

ANEMONE HEPATICA.

Among the spring wild flowers of this country there is no greater favorite than the Hepatica, or Liver-leaf, or Liverwort.



It is among the very first we expect at the opening of spring; its handsome and peculiar leaves distinguish it among all low-growing plants, and being evergreen

are in full form and beauty at a season when most herbaceous plants are destitute of foliage. Its small, purplish flowers,

borne on long stems, seemingly offer themselves to their admirers, and they are borne away by loving hands as gifts for friends, and to grace our table vases, welcome tokens of the awakening of vegetation from its winter slumber.

"Sweet are the memories that ye bring
Of the pleasant, leafy woods of spring;
Of the wild bee, so gladly humming,
Joyous that earth's young flowers are coming."

Much as this plant is admired, it is strange that it has not been commonly cultivated; it is a single instance of numberless cases illustrating the well known fact that we prize for our gardens plants of foreign origin in preference to native ones, without regard always to real worth. By-the-by, this plant is a denizen of the woods and copses and wild grounds of Europe and Great Britain as well as of this country, and there it has been far more freely introduced into gardens than here, in fact, it is practically unknown in this country as a garden plant.

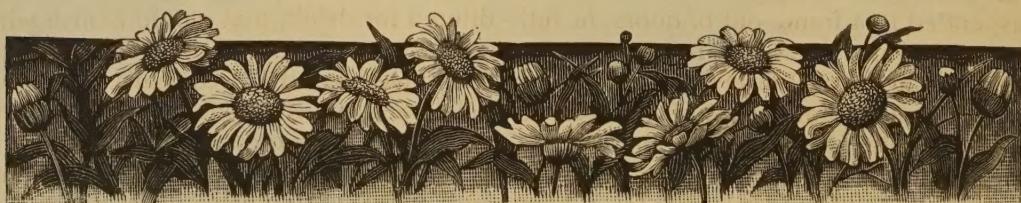
As it grows naturally in cool and somewhat shaded places, no doubt many have inferred that it would not be suited to the garden fully exposed to the sun.

This, however, is not the case, as the writer has seen it in most trying situations, one of which was on the south side of a house, near the wall, where the soil was dry, and where it received the full sunshine all day and the reflected heat from the wall, a place particularly well adapted to that heat-loving plant, the Portulaca, and yet in this situation the Hepatica has lived and flourished, undisturbed, for many years. True, this is not the treatment we should advise for it, but it demonstrates the vitality of the plant. In a deep, rich soil in a well cultivated border it will do well, and it will be quite at home in a place a little shaded by the tops of trees, or among shrubs.

LINNÆUS called this plant *Anemone Hepatica*; later botanists believed themselves justified in considering it a species distinct from *Anemone*, and called it *Hepatica*, and gave it the specific name *triloba*. When, however, it came under the consideration of BENTHAM and HOOKER, in the preparation of their great work, the *Genera Plantarum*, they recognized its true character as an *Anemone*, and restored it to the position which the father of botany assigned it. Both in Europe and in this country the plant assumes various forms, differing in the shape of the leaves, color of flowers, and other minor particulars, and some of these forms have been thought to indicate specific differences; one in which the points of the leaves are acute, as shown in our engraving, has gone under the name of *H. acutiloba*; but there is now no doubt that this form only distinguishes a variety, and it is claimed that there is abundant proof that the variety is far from being a fixed one. The flowers vary both in size and color, in the latter respect ranging from white through various shades of blue and purple. Double flowers are sometimes found, and partially double flowers are not rare, in fact, the instability of the equilibrium

of this plant is a marked feature of it. This being the case, there is little doubt if one should raise it from seed for a few successive generations, important modifications of it would occur, increasing its value for the garden.

In referring to the files of the Bulletin of the Torrey Botanical Club, we find the following in a communication a few years since from I. H. HALL, which is worthy of wider circulation. "The *H. triloba* is more apt to run to bright colors, rose, purple, deep purplish blue, and more often develops scent; while the *H. acutiloba* is most commonly white, or with blush of rose or faint tinge of blue. Transplanted into gardens, the *H. triloba* develops the stronger scent, and keeps its color brighter. In both forms, both wild and transplanted, I have observed a considerable degree of permanence in color from year to year in the same plants. It may be interesting to observe that hardly any of our common wild flowers takes more kindly to cultivation than the two Hepaticas, provided they are not put in a place too hot or sunny. They multiply, the flowers increase in size and grow double, and develop an odor almost like a bed of Sweet Violets, which is peculiarly grateful when, as they often do, they come up and bloom through the snow, while the clustering bees make them hum, like VIRGIL's hedge of Willows, and the leaves make a most beautiful shining border all summer. In the woods the Hepaticas are constantly visited by the bees from the hives at home; indeed, they are the first things to start out the bees. I know of one hive in particular from which the bees regularly go every spring a mile and a half to a patch of woods, to gather honey from the early Hepaticas." The plant is well worthy of attention for the border, and should be cultivated by those who rear plants from a love of nature, and not merely for display.



CORRESPONDENCE.

PROFIT IN FRUIT RAISING.

I seize the moment to say that when Cherries are only three cents a pound, as reported in the MAGAZINE for December, a shrewd fruit grower will put profit in his or her account by drying the crop. Dried, with or without stoning, Cherries are scarce at eighteen to thirty cents a pound, and I have seen choice pitted Cherries at higher price. Hardly any fruit is easier to prepare, as Cherries want no paring, and no dried fruit keeps so much richness. Pickled Cherries are a cheap, excellent relish, and would sell at remarkable prices if any were to be found in market.

When fruit sells too low for profit it is time to preserve it and reap treble gains. The quickest and cheapest ways of keeping fruit will be found most profitable, and are the only ways in which a grower can work off a crop in time to save it. Dried fruit is easily handled, and is coming back into favor with knowing housekeepers, who recognize good things and know how they should be cooked. No expense for evaporators is necessary. I long since made up my mind that evaporated fruit is inferior to sun-dried in flavor, and talking with old dealers in family stores find they prefer the sun-dried for their own use. The best cook I ever knew said the same, and there is reason for it. The sun ripens and develops sugar and flavor in cut fruit dried in its rays. To have a nice quality of dried fruit, select firm, fine, ripe specimens, wipe clean, pare, and cut with silver knives, as steel turns them black on the edges, and hurry into the sun as fast as they can be prepared.

The cheapest and best way of drying fruit is to lay it on lengths of cheese cloth, suspended in a frame out of doors, in full sun, with white mosquito netting over to keep off shreds and insects. This allows the air to reach both sides of the fruit at once, and when you want to turn it, the whole can be swung over on another cloth, leaving the first ready for a new batch. Apples should be pared, cored

and cut in eight pieces. Peaches should not be pared, for the richest flavor is lost with the skin. They should have the fur removed by dipping baskets of them a moment into weak boiling lye of wood ashes or common potash, and wiping with coarse towels. Common Peaches only need to be cut in halves to dry. We had Peaches dried in this way last winter, which when cooked would be hard to tell from the best canned Peaches in looks, with richer flavor.

Pickled Peaches might be as staple as Cucumber pickles and sold by the firkin instead of the quart. Apple and Peach butter ought to be in every grocery, as plenty as Raspberry jam, and a great deal better. Inferior fruit can be put to good use in this way, only no fruit should be cooked in metal kettles, brass, copper or tin. Brass kettles spoiled the sale of old fashioned Apple butter. Sometimes I find a box of it at the large Boston grocers, but when it leaves a coppery stain on a knife blade, and still more coppery taste in the mouth, dealers are shy of recommending it. Yet there is no canned fruit or preserve better than good Apple butter stewed down in its own fruit sugar till its juice thickens into syrup. If you have not a porcelain kettle, make it in three-gallon stone jars, filling the oven with them, and you will have a better thing with less trouble.

With all the tons of Grapes raised, how is it there is not a gallon of Grape syrup to be had for love or money in market? If you don't know that Grape juice boiled down to a clear syrup is the most relishing thing in sickness or health, for consumptives and to keep people from getting consumptive, to be eaten as food or diluted for drink, that would banish wine sooner than the temperance societies, you have something to learn. This article, once known, would prevent all danger of an over-crop of Grapes, for it would be made and kept by the barrel, and exported for use in all climates. The new production of cider jelly, which

is merely cider boiled down, without any addition till it is a solid, dark jelly, is a great gift to the housekeeper, and will be the salvation of the Apple orchards. What if Apples are fifty cents a barrel in October? Set the cider mills going, and the huge enameled evaporating pans. Perhaps cider jelly at twelve cents a pound will pay you, as there is no sugar to be used.

So with other fruits. An enterprising woman in Central New York advertises in one of the city papers, home-made preserves and jellies, Quince marmalade at \$2.50 a dozen pints, jellies the same for a dozen tumblers. I was invited to buy Strawberry preserves, put up by a Boston woman, for \$4.00 a dozen tumblers, but was able to restrain myself from buying at that price. There is a market for good preserves, made in small quantities by private hands. The preserves made at factories taste of nothing but sugar, a dead, unmitigated sweetness and flatness. Most of the home-made preserves at the women's exchanges in cities are inferior in appearance and queer in flavor, not comparing with those I have seen at county fairs in clearness and firmness. The new money making speculation for women will be, not writing amateur stories and leaping into success, not art decoration or silkworm raising, save the mark! but in the good old way of getting

up something to eat, and this time by fruit preserving. Nobody will make a fortune at it, but a good many will make a grateful addition to their incomes.

The southern women sent a good show of choice preserves, Pineapples, Figs and Oranges to the Mechanics' Institute Fair, in Boston, last fall, and I rejoiced to see it, so many, many women need work, and for once in their distracted efforts to find it, they have hit upon something that is needed and will pay. The trouble has been to find a market; but one firm of dealers in Italian goods in Boston have agreed to sell on commission home-made preserves, put up in suitable packages, which are quart or two quart stone jars, duly sealed with wax. Stoneware is preferred to glass cans, because fruit is injured by the light, and there is risk with the caps, as cans are made more carelessly, year by year. The jars should be packed in chaff, cut straw, or any material that will prevent breaking, and shipped as first-class freight. The same packages will attract purchase nearer home, for it is policy to sell direct to the customer, if possible, saving all the profit. Families in town are glad to contract for fruit in season with small growers, who will not ask fancy prices, and would gladly buy country produce the same way if they could be sure of good articles and fair prices.—SUSAN POWER.

BLACKBERRY—PRIZE ESSAY.

Blackberry culture, like other kinds of business, requires a good comprehensive knowledge of its requirements, as well as thoroughness, in order to make it a success. If you do not understand the business fully, you must learn it before you can succeed. Do not begin it on too large a scale, but begin moderately and work into it gradually, for you have to establish yourself in the business, not only as a producer, but as a marketer, and the latter, the disposing of a crop profitably, is full as important as the production of it. By commencing moderately, you avoid expense by raising instead of buying most of your plants, while you are at the same time building up a market for your products and advertising your business, which are both absolutely essential. The nearer markets are usually the best, and one can often sell

direct to the consumer, and thus form a mutual and constantly increasing acquaintance, better than to depend entirely upon the distant commission houses, and the consequent largely increased competition which necessarily crowd in upon the large city markets, while at the same time, if your local market chances at times to be overstocked, you have the recourse to the other at any time for your surplus. Early fruit, as a general thing, pays best, and the next and even more essential requisite for success, is fine fruit, and put upon the market in the best and most attractive shape and condition. People will buy what suits their fancy in fruits as well as in other things, and the more attractive you can make its appearance the more saleable and the better the price. Fine Apples, Peaches, Pears, Oranges, &c.,

are the fruit selected in the market, and you can make largely the same difference in the saleability of smaller fruits.

Location, which gives ready access to market, climate and soil are the first requirements. It will probably not pay to try to raise Blackberries for market in a climate severe enough to require protection of the plants in winter, though you can select kinds which are more hardy than others and will succeed in a colder climate. The best soil is a good clay loam, comparatively new, or, at least, abundant in "humus," and well drained, and I think I can describe its requirements by saying, such as will produce a fine crop of Potatoes. Old pasture or meadow land, well plowed in the fall, and, too, plowing in a pretty good growth of grass, instead of, as is frequently done, "pasturing it to death" before plowing, and the following spring planting it to Potatoes, with thorough cultivation of the growing crop, leaves the ground after digging the Potatoes in the fall, in the best possible condition for Blackberries; and I think I cannot too deeply impress the importance of a proper preparation of the soil before setting the plants. If you have not the sod or pasture land I have described, other good land will do. Plow it in the fall and sow to Rye, and then, in the following spring, when the Rye gets as tall as you can well cover, plow it under and harrow several times during summer, to keep down the weeds, without putting on any crop; then in the fall plow again and prepare thoroughly.

Don't go into the business from sudden fancy or impulse, but consider well what you propose to do, and plan particularly how you are going to do it before you begin. The fall is the best time to set the plants, as then they are ready for an early spring growth, and the roots will be growing and the plants becoming established before the frost is out, and the ground dry enough to work in the spring. If you have such ground, and in the condition I have described, it is preferable to land recently manured, and no manure need be applied until after the plants have borne, say two crops. In the absence of the clay loam I have recommended, the next best is good gravelly soil, and the least suitable a sandy one. Prepare the ground in the

best manner to a good depth before setting the plants, and mix the soil well, so that it be in fine condition, and loose, and dry, and never undertake to set plants in the mud, or when the ground is in other than good condition.

The first plants must necessarily be bought, and buy only of good, reliable men, and get first class plants, true to name, and not of mixed kinds, and be willing to pay a fair price for such. Good roots, well packed, are essential to success. The roots must be well protected, and in transportation and handling until finally set in the ground kept as much as possible from drying up. Have your ground all ready, except marking the rows, when your plants come, and then carefully heel them in near where you are to set them, covering the roots with fresh soil, so that if there is any delay in setting, the plants will not be suffering, and then you can take them out, a few at a time, keeping the roots shaded from the sunshine as much as possible while setting. Mark out your ground in furrows with a plow, in rows six or seven feet apart, and set the plants three and a half feet apart in the rows. If the kind set are moderate growers, like the Wilson's Early, make the rows six feet apart, and if they are rank growers, like the Lawton and Kittatinny, then seven feet apart.

I have found the most convenient way of distributing the plants in setting to be in a hand-cart, over which I put a cloth cover, somewhat similar to a covered wagon, with the cover raised high enough so the plants can be handled beneath it, and thus kept in the shade until ready to be set, and if the weather is very drying they can be sprinkled thoroughly after being put in the cart for distribution. Then a good stout boy can run the cart along the rows and place the plants in position, while a man covers them with a hoe; set plants about the same depth that they grew, and make the hole large enough to allow the roots to be well straightened out, and tread the ground well around each plant with the feet. Do not spend time unnecessarily, but be sure that you bestow time and labor sufficient to make a good job of it, remembering that if any one is cheated by doing it carelessly, it is always yourself.

Each season, after setting, the ground must have thorough culture. Do not think because the plants are for fruit they can take care of themselves, but give them as good clean culture as you do your Corn and Potatoes, beginning early in the season, but refraining from cultivation after September, to allow the plants to ripen up well before winter. When the plants are about three feet high, go through the rows and nip off the tops of the shoots in order to cause them to throw out lateral branches, and thus become self-supporting, and as the canes will be of different growth several nippings during the latter part of the season will be necessary, including also a shortening of the lateral branches when they begin to droop, making them much like miniature trees.

In each subsequent year, after the first, as soon as the plants have done bearing, cut out the old canes and remove them from the rows, as they will soon die any way, being of no further use, and if allowed to die on the plant, evidently hinder the growth of the new canes for the next year's bearing. Some claim that cutting them off and allowing them to remain till spring helps protect the plants during winter, and some recommend putting them between the rows and tramping them under foot; but I consider this a slovenly way of doing, and that it is better to remove them from the patch at once, and burn them.

If your ground is in such shape that you can do so, make long rows, so that in cultivating between the rows with a horse and cultivator you will be hindered less in turning. The plants will bear but little the first year, but the second year considerably, and the third year will come into full bearing, and if well cared for will be productive for ten years, provided, however, that the suckers are not allowed to grow too thickly, as all unnecessary canes must be mercilessly hoed up each year, in order to keep the rows in good condition, and the rows should be kept so as to mark the separate hills, and not allow them to form perfect hedge rows.

Blackberry sprouts are easily killed out when not wanted, or, if becoming too thick, by hoeing or cutting them during a dry time in summer, just at or below the surface, without digging, as that breaks the roots and causes them to

sprout more freely. These suckers may be allowed to grow, and may be taken up in the fall to extend your patch, or set a new one whenever you need more plants, and it is better to save and use them instead of buying, unless you wish to try new kinds, as you can transplant them without having them so long out of the ground. You can also increase your stock by root-cuttings, which make still better plants, though it takes them a year longer to come into bearing. Spade along one side of a row of vigorous growing plants and take up the outside roots in the fall, and cut them in pieces about three inches long, and bury them below the reach of frost until spring. Then they should be taken up as early as the weather will permit and planted two inches apart in nursery rows, about three inches below the surface and covered up about five inches deep, making a little ridge over the row, which should be raked off to make the surface level at Corn planting time, and if kept well cultivated will make strong plants for setting in the fall.

I have succeeded well, for some years past, with the Wilson's Early for early market, and Lawton and Kittatinny for late. Early fruit is the most profitable, the Wilson being marketed and all gone before the wild Blackberries ripen; but in some seasons, when wild berries are plentiful, the late kinds bring a low price, but even then will pay, if by thorough cultivation you produce extra fine fruit.

Try new sorts sparingly until assured of their superiority and success. The new kinds, such as Early Cluster, Stayman's Early, Stone's Hardy, etc., it is hoped will prove a valuable addition, but have not yet been tested sufficiently to determine with certainty, but each grower should test them in a small way for himself, unless he finds them already a success in his own neighborhood. The Snyder Blackberry is very successful, and bears a colder climate than most of the others.

In marketing your fruit, if a market is already established, it is well to ascertain and be guided by the most successful growers engaged in the business, and thus profit by their experience, without risk by experiment. I have found the thirty-quart crates, with me, the most saleable, picking directly into the quart

boxes without re-handling, as every time they are handled over the appearance and keeping qualities of the fruit are injured. Pick only fine fruit for market, and give good measure, liberal dealing being always the most successful, in other words, always do as you would like to be done by, and be sure your packages are neat and clean, and in appearance good. If you have had no experience in this, and have not the opportunity to see what are already a success in the market carefully look over advertising lists, and send to one or more reliable manufacturers for samples of berry boxes and crates, and then judge for yourself.

For the first year after your plants are set, you can profitably raise some rows of low-growing crops, such as Irish Potatoes, Sweet Potatoes or Beans between the rows, to help compensate for the necessary cultivation, but if that is done, it will be necessary to manure the soil after the first year, or your plants will suffer. I would most earnestly recommend, however, that every Blackberry grower also raise Strawberries and Raspberries. Then your Strawberries come into market first, and about a week after come the Raspberries, followed closely by the Blackberries, making it a continuous business during all the fore part of the season, and for the reason, too, that Strawberries can be planted in rows

between the rows of Blackberries and help make the whole thing a success.

I have only one more recommendation to make, and that is a dry house, or evaporator, and if a saving of expense is necessary, you can make a home-made one, which will answer a good purpose with little expense, in the shape of a small house with shallow drawers on the south side, and light slat bottoms, and so arranged that those nearest the fire can be exchanged and placed higher up when partly dried, and fresh berries put in their place, and heated by a stove underneath the drawers; in this way, if the market for your fruit gets too low for profit, you can evaporate the remainder of your crop, and thus market the dried fruit at a profit.

Before you undertake the growing of Blackberries, or, indeed, of any kind of fruit, become a subscriber to one or more reliable horticultural papers, and read them thoroughly; and also procure price lists from several good, reliable nurserymen, so you will be posted and not be at the mercy of traveling tree peddlers, who will be quite certain to visit you, asking enormous prices for stock often unreliable; and as long as you are interested in the business, keep yourself well posted, and in all things, if you expect success, try to deserve it.—
N. B. H., *Henryville, Ind.*

PANSIES.

My first venture in Pansy culture ended in total failure, and it happened in this way: I bought a package of seed, planted it in a box of good, rich earth, and as I had heard that they required shade, I put the box under a large tree. The seeds soon came up, but it chanced to be a showery season, and as almost no sunshine could reach the plants, and the earth was kept constantly soaked from the drippings of the tree, they began to dwindle away, and I lost them all before I discovered the cause of the trouble. Next spring I sent again for seeds, planted them about the first of March, and put the box in a sunny window, keeping the earth moist all the time. They came up and grew finely, and I planted them out in the open ground as soon as I could have the bed prepared. A tree shaded the bed slightly, but did not over-

hang it, and the earth was very rich from decomposed sods and vines, dug in the year before. The Pansies were of very large size, and of every conceivable shade of color, from snow-white to coal-black. I will not venture to say how many hundreds of blossoms were pulled from that bed, but they were scattered far and wide, and made quite a name for themselves. In the fall, I wanted to prepare the bed for early spring flowers, but did not like to throw away the long, straggling specimens that had bloomed all summer. I had a sunny south border spaded up, and enriched with a bushel of earth from an old straw-stack, and the same quantity from the cow-stable. The Pansies were then carefully replanted, and no further attention was paid to them. The winter was unusually severe, but by February they had become com-

pact plants, and bloomed profusely until scorched by August suns. If water stands on the surface, the Pansies will decay near the ground. The earth about them should be stirred frequently to

prevent it from baking, and to facilitate drainage. The blossoms look well arranged in shallow dishes, and the more freely they are gathered the better the plants will bloom.—V. V.

OUR ARTIST IN VIRGINIA.

One very noticeable feature about Claremont, at present, is its greenery, for, beside the abundance of Pine woods, most of which has grown up since the

measuring, about three feet from the ground, from fifteen to eighteen inches in diameter. The bark is smooth, light grey in color, like the Beech, with the addition of some light green and fawn-colored stains or patches, making a pleasing contrast to the glossy green leaves and red berries. The berries, by the way, do not apparently develop until the tree has grown eight or ten feet; the large trees produce them abundantly. The Holly is not used here for any practical purpose, except for the making of small fancy articles, such as napkin rings, boxes, paper knives, and the like. The berries are sometimes used as medicine, and have a pleasant flavor. The sprigs of Holly with a plentiful setting of red berries form, as every one knows, the chief and indispensable item in the Christmas decorations. It is a difficult tree to transplant.

Many of the farming utensils and contrivances in use here are somewhat antiquated, particularly among the negroes, and that same lack of education which leaves them so far behind in this respect, also manifests itself in the superstitious notions and ideas that prevail among them. A few days ago, while passing down the street, I was struck

with the quaint and picturesque appearance of a very primitive two-wheeled cart, drawn by two oxen. As soon as the "critters" were hitched, I began prospecting round the animals, surveying them first on one side, then on the other, not forgetting to take in the sun's altitude in regard to effect. Having determined my "point of sight," out came the sketch book, and I proceeded to business.



HOLLY TREE.

war, there are quite a number of trees, shrubs, ferns and mosses that retain their fresh green foliage as though it were yet summer time. The most remarkable of these is the Holly, which is very abundant here, and grows to be a large tree, so that as you stroll through the woods or along the by-paths, it is to be seen every few minutes, from the tiny plant of one or two feet up to the noble tree of some forty odd feet high, and

Now, all this time the darkey proprietor of said team had been watching me most anxiously from the other side of the

said, "I'se not gwine stan' by an' see dem critturs b'witch'd, not ef dis chile knows hisself." But I got my sketch after all,



SPRG OF HOLLY.

street, and when the last move was made on my part, he could stand it no longer, but came over in a great flurry, and un-

for while I sat in my hotel parlor an hour afterward, the same darkey hitched his rig in front of the store opposite, till he



THE "CRITTURS."

hitching the team drove them off to a safe distance, nor could I prevail upon him to let me make a sketch of them for any consideration. "No, no, boss," he

got some dry goods, and in the meantime we took in the whole picture, his boy included, as he sat astride the pole, in in the capacity of driver.—J. W.

HARDY FERNS.

The Ferns of temperate climates only present themselves to us as herbaceous plants, consisting of leaves, usually supported by strong leaf-stalks, which shoot up from a horizontal stem, that creeps upon or below the surface of the ground. These fronds assume a great variety of form, freshness, gracefulness, and feathery beauty, possessed by no other class of ornamental plants.

There are no more useful plants for decorative purposes in our dwellings, than our hardy evergreen Ferns. They are the best of all plants for window-gardening in cool rooms, as they will endure and luxuriate in every change of temperature, even below the freezing point. Their graceful fronds keep fresh and green in an atmosphere where Geraniums and other tender plants could not exist. In many houses where the inmates are fond of flowers may be found a Wardian case, or a tray covered with a

bell-glass, in which a few exotic Ferns are vainly trying to live and look healthy. Such Ferns receive every attention; their glass covers are now and then removed to give them air, the temperature of the room must be kept at 70°; and yet, in point of freshness and intense greenness, they cannot be compared with hardy Ferns which only require a little water to keep them in good health.

For window culture the best suited are *Asplenium ebeneum*, *A. Ruta-muraria*, *A. Trichomanes*, *Camptosorus rhizophyllus*, *Polypodium incanum*, *P. vulgare*, *Scolopendrium vulgare*. These are all dwarf species, and very effective ornaments to a room, grown around the edges of the window box, or as single specimens for the table. Species of a more robust growth than those just now named should be chosen for the centre of the box. *Aspidium acrostichoides*, *A. cristatum*, *A. Lonchitis*, *A. marginale*, *A. spinulosum*

and the Climbing Fern, *Lygodium palmatum*.

Some of the larger species of hardy Ferns can be successfully grown in pots in windows having an eastern or north-eastern exposure. It seems strange that the culture of this class of ornamental plants should have been so long neglected, and their proper place in many cases supplied with frost-bitten exotics. The following are a few of the best species:

The Maiden Hair Fern, *Adiantum pedatum*. This is one of the most beautiful of all our native Ferns. It grows luxuriantly if protected from the direct rays of the sun.

The Lady Fern, *Asplenium Filix-fœmina*. This is one of the most elegant and vigorous-growing Ferns, carpeting the surface of the pot with its beautiful fronds.

Royal Fern, *Osmunda regalis*. This is, without exception, the noblest of all our natives. With a little care and skill it can be grown in pots. It must be plentifully supplied with water.

The Ostrich Fern, *Struthiopteris Germanica*. A Fern of majestic port; when well grown it reaches the height of five feet, each frond being nearly as feathery and as graceful in its curvature as an ostrich plume, the English name being evidently given it owing to this circumstance.

Rattlesnake Fern, *Botrychium Virginicum*. A beautiful Fern, the largest of its genus.

The Ternate Polypod, *Polyodium Dryopteris*. This graceful Fern loves shady places; the leaves are delicate, dividing into three light green, compound leaflets.

Hart's-Tongue Fern, *Scolopendrium vulgare*. This curious Fern is one of the brightest and freshest; its simple, glossy-green fronds being variable in form, some being very beautiful and others curious and interesting. This species should find a place in every collection of Ferns.

The above named species will grow luxuriantly in fresh loam one-half, leaf-mold one-fourth, sand, or sandstone grit one-fourth. Mulch the surface of the pots with well-rotted manure.—J. W. ROBSON.

VIOLETS IN WINTER.

Sweet Violets! flowers of heaven's cerulean hue,
Fragrant and fair as fleeting dreams of earth;
Thy lovely petals, tinged with softest blue,
Veiled 'neath green leaves, are hid like modest
worth.
Fair flowers, which poets e'er delight to praise;
So redolent of spring-time's sweetest bloom,
Of life and love, and youth's bright golden days,

Dispelling every thought of gloom.
Thy subtle odor every sense controls,
And memories thrill my inmost being through;
While backward thought the magic curtain rolls,
Revealing sweet spring mornings wet with dew,
When life was young and fair; I dare not trace
Those paths again; "dead Violets keep the place!"

—LILLA N. CUSHMAN.



FOREIGN NOTES.

ROSE MILDEW, SPHÆROTHECA PANNOSA.

In describing the fungus of Rose mildew, there is little need to advert in detail to the external aspect of Rose trees when suffering from an attack of this plague. The deplorable appearance of infected trees is only too well known to every gardener. The leaves and stems of the trees appear to be thickly dusted over, or frosted with a grayish-white powder. Every part of the plant, in bad cases, is distorted, curled, swollen, blistered, and sometimes blackened; the flower buds are often attacked, and then all chances of fair blooming are effectually destroyed. It is impossible to imagine a more melancholy sight in a flower garden than beds of Roses badly mildewed.

We may not be able to point out how mildew can be prevented or destroyed, but we can, at least, clearly explain the habit and nature of the fungus which causes the mischief. Sometimes a knowledge of the habits of fungi gives a clue to a possible prevention or cure, but without full information it is obvious that any attempts to ward off disease is mere working in the dark.

Opinions vary greatly amongst practical men as to whether mildew is fostered by a dry or humid season. Some say it is started by damp weather, others by dry. There can be no doubt, however, that in another closely allied mildew—the mildew of Peas, Erysiphe—hot and dry weather greatly aids the

spread of the fungus. Abundant watering will stop the spread of mildew amongst Peas in dry seasons.

To understand the mildew of Roses, a careful examination of the fungus must be made with the microscope, at different periods of the summer and autumn. As it is probable that many readers of this paper may not have a microscope, or if they have may not possess glasses of very high power, we will supply this possible deficiency by furnishing a series of illustrations traced from camera lucida reflections from nature, direct from our own microscope. We are not aware of the existence of any similar illustrations in any English book, as Dr. COOKE, in his excellent work on microscopic fungi, only gives two very small figures of the ultimate condition of the fungus.

In the first place, then, we will take a Rose leaf in the summer, frosted on both sides with mildew; the mildew is generally more profuse on the lower surface. With a keen knife we will cut the leaf in two, and from one of the exposed cut edges of the leaf we will, with an extremely sharp knife or razor, cut off an excessively thin and transparent slice. When this long, transparent, thread-like slice is laid on its side, on a glass slide, we must cut a fragment from the middle, cover with a disc of thin microscopic glass, and then place under the microscope. If we magnify the fragment one hundred and fifty diameters, we shall see it as in fig. 1. The thickness of the Rose leaf, seen in section, is shown between letters A and B. The upper surface of the leaf is shown at A, the under surface at B. The upper surface is supported inside by a double series of sausage-shaped cells, termed pallisade cells, as shown at C; these cells make the upper surface of a leaf firmer than the lower surface. The lower surface is furnished with numerous little openings termed organs of transpiration, sometimes "breathing pores"; one of these is shown at D. The circular bodies be-

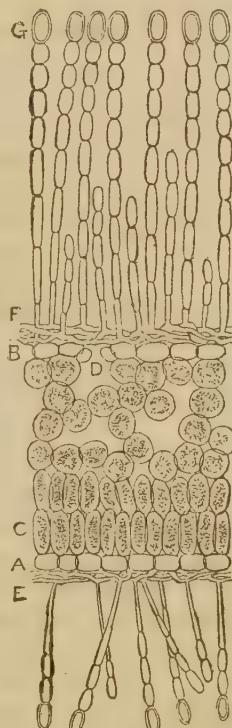


FIG. I.—ROSE MILDEW;
ITS EARLY STATE, EN-LARGED 150 DIAMETERS.

tween the upper and the lower surface of the leaf are the loosely packed constituent cells of which the leaf is built up. It will be seen that the leaf-cells do not everywhere touch; the open spaces between are termed intercellular spaces, and it is the habit of the spawn of many fungi to grow in these spaces. All plants part with moisture in the form of fine vapor through the organs of transpiration. The lower surface of the leaf is almost invariably shown upwards in botanical drawings, made to illustrate fungi, because the fungi generally grow on the

stiltant cells. This piercing sets up decay.

Springing from both beds of spawn on the leaf surfaces are numerous necklace-like clubs, each club being built up of numerous oval or sausage-shaped bodies. It will be observed that the club growths are much more robust on the softer and looser under surface of the leaf, as shown at G, than on the harder upper surface, as seen at H. This club-like growth is the early condition of Rose mildew, and this state of the fungus is known to botanists as *Oidium leucoconium*, *Desm.* The name is derived from the Greek. The first word indicates the egg-like form of the cells of the club, and the second word the white color.

One hundred and fifty diameters is a power barely sufficient to show the mildew well, so in fig. 2 we have shown a group of clubs under twice that power, viz.: three hundred diameters. A perfect necklace-like club is shown at A, growing from the bed of spawn at B. A young club is shown at C, whilst at D a club is shown in the act of falling to pieces. Each oval body which goes to form a club is a spore or seed capable, upon germination, of reproducing mildew. The upper spores germinate more quickly than the basal ones. Each bead-like spore, bud, or seed is so slightly attached to its neighbor at top and bottom, that the faintest breath separates them. All are so potent with life that they frequently germinate as they stand in club form; others germinate as they sail through the air, as the one at E. The thread which is emerging from the spore is a thread of mycelium or spawn ready to invade any Rose it may fall upon. These spores are often technically termed conidia, from the Greek word indicating dust. The spores or seeds are sometimes produced in such inconceivable abundance in mildew, and especially so in the genus *Oidium*, that gardeners are often put to great inconvenience by merely inhaling the spores. The numbers of the fungus spores are so great on any badly infected Rose bush, that a row of seven figures, to indicate millions, gives no idea of their enormous numbers. This profusion of spores is a provision of Nature for the safe preservation of the species.

Nature seems to have determined that

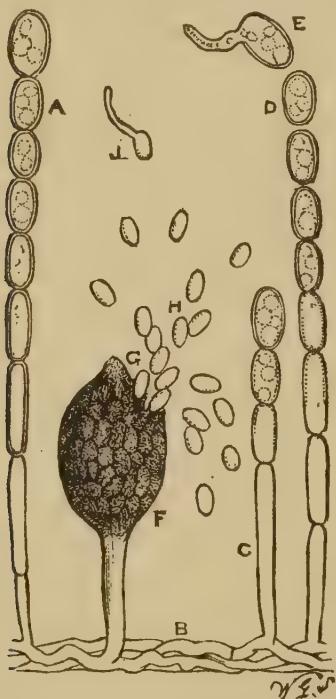


FIG. 2.—ROSE MILDEW; ITS EARLY STATE, ENLARGED 300 DIAMETERS.

lower surface; it is necessary to reverse the leaf to observe the habit of the fungi.

We will now leave the little fragment of Rose leaf itself and turn to the fungus upon it. The first point to be noticed is the woven mass of grayish-white mycelium or spawn upon both surfaces of the leaf, as shown at E and F. Under a simple lens this spawn looks like a thin stratum of spider's web. The spawn, as will be seen by the illustration, is woven over the organs of transpiration. By this habit of growth the mouths of the plant are stopped, and the leaves are, as it were, suffocated. The spawn or mycelium is also furnished with minute suckers which hold on to the leaf and more or less pierce and injure the con-

but few of her works shall be destroyed by man, especially her smaller works. If we make a still closer examination of an infected Rose leaf, we may probably find other bodies growing from the mildew spawn, resembling the growth shown at F. Each of these is a sort of swollen flask, densely packed with seeds or spores of another class. As maturity is reached the flask bursts, as shown at G, the secondary spores are shot out in vast numbers, and many of them germinate as they sail about in the air, as shown at J. The spore flask is technically termed, by botanists, a pycnidium, from a Greek word, which indicates dense packing, in reference to the closely packed spores or seeds. Our readers will now see that the fungus of Rose mildew has such enormous powers of reproduction, that when it has once made its attack on Roses everything is in favor of the mildew, and nothing in favor of the Rose and its grower.—W. G. SMITH.

Conclusion in next number.

BLOOMING LILY OF THE VALLEY.

It is not generally known, even by gardeners, that the young plants of Lily of the Valley do not bloom until they are fully three years old, and even then the size and beauty of the blooms will depend on their having been well grown in the interval. They will not do much good if they be not separated from the mother-plant and planted in well manured (cow manure) light soil in a warm sheltered place, and be kept watered during dry weather. That is one reason why crowns produce better blooms and foliage than clumps, and also why old Lily beds become productive of small blooms, and a great mass of crowded ill-developed young plants. Lily of the Valley that have once bloomed do not die, nor do the plants flower again for two years,

hence the waste of time in forcing of Lilies the first and second years after blooming.—*Gardeners' Chronicle*.

CHRYSANTHEMUM CUTTINGS.

There are many opinions about the best time to strike cuttings of Chrysanthemums, but much depends upon the use they are intended for. For specimen plant, my advice is to take the earliest and strongest cutting that can be found. As some varieties are very shy in producing shoots, I would advise taking cuttings from the green tops in September, but they must not be allowed to produce flowers, as many of them will; they should be kept growing slowly. To obtain large blooms for exhibition I find the latter part of February quite early enough, or even March is not too late for the purpose. The cuttings take root more freely than autumn cuttings do as a rule; they grow with greater vigor, and are not so liable to receive injury as autumn plants. By striking cuttings in March I find the ladder or steps can be dispensed with in disbudding or examining the bloom for insects, etc.; and tall-growing varieties can be cut down in May with greater certainty of their breaking readily at the point where cut. Autumn-struck plants become hard in the growth in April and May, and the consequence is, the plants throw up suckers from the base. Should they break at the cut they are more liable to be broken by winds, in fact they will hardly support their own weight; whereas spring-cuttings can be shortened almost where you please, and will show very little of the operation afterwards. March is a good month to strike cuttings for general decorative purposes, in fact, I prefer it to any other month, and my experience extends to nearly twenty years.

—R. O. in *Journal of Horticulture*



PLEASANT GOSSIP.

THE PERENNIAL PEA.

The Perennial Pea, *Lathyrus latifolius*, is a well known herbaceous plant that freely bears every Summer a great number of racemes of its beautiful rose-colored flowers. It grows from six to ten feet in height and makes a fine display when trained upon a fence, trellis or wall. The foliage and stems are destroyed by the cold of winter, but the root survives and pushes a new growth rapidly in spring, and from mid-summer to September its blooms are produced in succession. These not only appear to advantage on the plants, but are greatly admired as cut flowers, the common name for this plant in French is *Pois à Bouquet* or Bouquet Pea, and our colored plate this month well testifies to its pertinency. The white-flowered is a variety which, like the rose-colored form, perpetuates itself by seed. As the plants from seed require two or three years to come to blooming strength, it is a gain in time to set one or two-year-old plants instead of sowing the seed.

PRUNING ROSES—TUBEROSE.

I have been much interested in an article on pruning Roses in your January number. Do you endorse pruning Roses in February? I have always done my pruning in the spring, just before the bushes start, or as soon as the leaf buds can be seen on the new growth, cutting back to two or three buds. If any one about here has better Roses than I do, I have never seen them, so it seems that this treatment agrees with my bushes. I have nothing but hardy Roses. Have never lost a bush that was all right when set out.

What will make my Tuberose bloom? It is apparently alive, but two or three years has grown nothing but leaves, and not many of them.—A. W. B., Milton, Mass.

The time, February, for pruning Roses, mentioned in the article referred to was proper in that part of France where the writer lived, as it is the proper time, also, in many parts of the south in this country; it was mentioned as the time "before vegetation starts." In a country as vast and as unlike in climate in its different latitudes as is ours, it is impossible to speak of gardening operations with reference to positive time.

The Tuberose mentioned is worthless, as its flower stem is destroyed.

HARDY DWARF HEDGE SHRUB.

Will you kindly tell me, through your valuable MAGAZINE, what kind of a hardy dwarf shrub would be suitable for an enclosure to a cemetery lot? Is the evergreen Candytuft hardy? I would much prefer something that blooms, if possible.—H. L. C., Altoona, Pa.

The Candytuft would not be suitable for the purpose desired.

As a low-growing, hardy flowering shrub, it is probable that *Deutzia gracilis* will prove as acceptable as anything that can be found.

SPRING WORK.

As spring work commences in force in the garden and fruit grounds, it will demand all our skill and energy to keep ahead, for however well planned it all may have been in advance, unforeseen occasions will arise requiring time and attention. But the profit in many garden crops depends upon their earliness. Those who took advantage of the fine weather late last fall to prepare land for spring planting will find the value of their course in the advancement of their work this spring. The hot-beds, cold-frames and hand-glasses will now have great importance in hastening and protecting tender plants. Start seeds early of those plants that are to be transplanted, and sow plenty of them, ten dollars worth of plants are sometimes lacking because five cents was saved in the quantity of seed sown. If Cabbage, Cauliflower, Tomatoes and Egg Plants have not yet been started, it is time they were taken in hand. During this month, earlier or later, according to localities and the weather, Radishes and Cucumbers can be started in hot-beds, and, of course, Lettuce at any time. In the middle regions of the country Peas, Onions, Spinach and many other hardy vegetables will be planted in the open ground. Those who have not a supply must not forget the Rhubarb and the Asparagus needed in every family during the spring.

MORE ABOUT MY HEATING FLUE.

I see in the January number, page 23, that my forked heating flue, described in my essay, finds imitators. I would like to say a little more about it. My chimney has a damper just above the fire, which enables me, when starting the fire, to send the first heavy smoke up the chimney, for, no matter how good the draft, there is often more smoke than the horizontal flues will swallow. At the same time it warms up the chimney first, causing an upward draft, which will make the horizontal flues draw so much better after the damper is shut.

Another important point is, never to allow any ashes to accumulate under the grate. The place under my fire is always clear. To accomplish this, I had an additional pit constructed under the ordinary one, into which I put a galvanized iron box to receive the ashes, and covered it with a fine grate, leaving room in front to pull out the ash-box. This place is covered with a solid piece of sheet iron. The ashes fall on the fine grate over the ash-box, and are raked through with the poker laid edgeways. It will be perceived that the grate over the ash-box acts as a sieve, saving the annoying labor of riddling the ashes outside, and getting them all over one's clothes. The damper, above described, prevents all dust. Whenever the fire is raked the damper is opened, the increased draft carrying the dust up the chimney.—C. EVERDING, *Branford, Conn.*

SUCCESS WITH LILIES.

Seeing from the January number of your MAGAZINE, the Lilies planted by Mrs. C. C. P., of Gouverneur, N. Y., acted the same as some planted by me two seasons ago, I will furnish you with what I have learned by experimenting.

The first year my ground was plowed and worked to a depth of six inches. This was ground which had been planted in Peas the season before. Bulbs planted were what are sold by florists as "large." Bulbs were planted in October, well-rotted stable manure was spread over the top of the ground about three inches thick. Plants seemed to grow well, but flowered poorly, and the new bulbs which had formed were about the size of Filberts. The next season, being dissatisfied with the bulbs, bloom and plants

of the preceding season, I had the ground plowed and worked to a depth of twelve inches. This was done during a drought. After plowing and working it thoroughly to this depth I sowed Cow Peas on the bed, and after they had grown to a uniform height of ten inches I plowed and worked them under thoroughly, taking care that the vines and roots should be buried at least six inches below the top of the ground. After allowing a rest of about fifteen days, the ground was levelled, and well-rotted stable manure was spread over the entire bed to a depth of about four inches; this was worked in, mixing it well with the soil to a depth of six inches.

I again purchased "large" bulbs of the Longiflorum variety, planted them in October, gave a top-dressing of well-rotted manure in February, immediately before a rain, and by Easter I could boast of having flowers from eight to nine inches in length, and perfect in all respects. This may be of some assistance to true lovers of the Lily family, but no one who simply admires the bloom should attempt it, as it is work, hard work, for one season, at least.

The present season I simply plowed the ground to a depth of four inches, mixing two inches of well-rotted manure, and now have plants ten and twelve inches in height, and of magnificent form. This season I planted bulbs which I raised last season. The bulbs averaged from one and a half to two and a half inches in diameter I now have about three hundred bulbs in the ground.

All of the above was done outside, my Lily bed being on the south and west sides of the fence. Should the foregoing prove of any value, I may give you my experience with Lilies forced into bloom in the greenhouse.—E. B. HALLINGS, *Charleston, S. C.*

ROSE MILDEW.

The article on Rose Mildew in our foreign department, we think will be appreciated by a large number of readers; it will be concluded next month. The writer of it, Worthington G. Smith, is a recognized authority on the subject, and he treats it in a masterly manner, both in its scientific and its horticultural aspect, and so simply and clearly that it can be understood by all.

AN ANTI-POTATO-BUG PLANT.

Last summer, after planting my borders and flower beds, I had some odds and ends left, among which were about a dozen plants of Perennial Larkspurs, *Delphinium formosum*. I planted all in a row alongside of a Potato field. Every Potato grower knows that no matter how carefully and persistently he applies his Paris green, when the vines die down there are always some bugs left to supply us for the next season. When there are no more Potato vines to eat for them they go for Tomatoes, Peppers, Egg Plants, and others belonging to the *Solanum* tribe. One day, when passing my Larkspurs, above mentioned, I was astonished to see the ground under them covered with dead, half dead and nearly dead Potato beetles. Some were on the plants, and, of course, I watched them. My observations satisfied me that none of those who trespassed on my Delphiniums lived long enough to have a taste of the Tomatoes in the next field. There was no apparent injury done to the plants that killed them; but how did they get killed? My theory is, that after leaving the Potatoes they crawl up everything, and nibble at everything that comes in their way, until they find something that suits their palate, but that even nibbling at Larkspur is too much for a Potato bug. Perhaps some who read this will experiment on a large scale the coming summer; I certainly shall, if the seeds I plant do not disappoint me.—CHAS. EVERDING, Branford, Conn.

MULBERRIES.

My experience, here in North-eastern Vermont, has shown that the Russian Mulberry is very hardy, if not perfectly "iron-clad." The present winter, with the mercury at 45° below zero, will settle the latter point. Downing's Mulberry is not any hardier than a Peach tree. It is killed to the snow line, even in our mild winters. There is a good deal of inquiry about the value of Mulberries as fruit. They vary much among themselves even in the same species, but some of them are very nice. Yet, although the trees are quite plenty in the Middle States, and especially in Kentucky, where I lived from 1849 to 1861, I never saw any brought to market. I had a fine tree growing in my dooryard there, but never

could get more than a handful of ripe fruit at a time from it. It ripens along irregularly, and the birds are very eager for it, so that they get the berries as fast as they ripen. In this respect it is like the June Berry, Shad Plum, or Sugar Plum, *Amelanchier*, of which I have two nice trees, that bear large fruit, on my lawn, but hardly ever am able to get a ripe specimen. There are dwarf varieties of *Amelanchier* that are said to bear as profusely as the best Huckleberries, and are recommended to plant for growing market fruit. But I think the grower will have to fight for the crop even more persistently than for his Cherries.

What does VICK'S MAGAZINE know about the Ostheim Cherry? Is it grown in any of the experimental orchards about Rochester?—T. H. HOSKIN, M. D., Newport, Vt.

FLORAL GOSSIP.

In the February number, ROSINA HOLTEN takes me to task pleasantly for what I had to say about the peculiar style of "rockery" described in a recent communication, and goes on to tell about her stone-walled beds, and suggests that the "rockeries" I spoke of were constructed in the same manner, and, therefore, my criticism would not apply. But, the fact is, the "rockeries" I described are not considered as "beds" by the owner thereof, and such an insinuation would be indignantly received. Imagine "beds" not more than four feet in diameter, and walled up to a height of three feet, or thereabouts, with stone laid with all the regularity a mason would use in constructing a house wall, and these walls constructed in the shape of a coal-kiln, or cone, with the top sliced off. You can't call them "beds." Imagination has its limits. And when you have formed as good a mental picture of them, imagine two on each side a straight walk not a rod in length between the gate and house. In summer a few plants drag out a dry and sickly existence on the "apex" of the "cone," but no trailer has ever been suffered to desecrate the white walls of these "edifices." The owner of them has plenty of such plants growing in the garden. The fact is, and this is precisely why I called attention to these "rockeries," they were not built for use, but for ornament. The owner of them

had probably read of rockeries, and went to work without taking good taste or a sense of the fitness of things into consideration, and built these monstrosities. She is probably a woman who "likes to see things look clean and neat," and, after the fashion of the friend described as applying whitewash to the entire garden every spring, she has calsoined these "rockeries," with the intention of improving on nature. Possibly, and probably, they please her, but several such glaring erections between the street and house are really eye-sores to a person who has faith in nature's good taste and does not believe it worth while to try and improve on her methods. I am inclined to think it attributable to a sort of perverted taste, which sees beauty in Canton flannel dogs and doves, and, shall I say it, dare I say it? "crazy quilts," and the like. It may indicate a latent and undeveloped taste which has an idea of the beautiful which it lacks capacity to carry out, and, so far, it is deserving of respect, and should not be ridiculed, but encouraged; but the way to encourage a proper development is to discourage the manufacture of such abnormal attempts as these I have mentioned. They pervert taste, and they cannot satisfy any one who has the vaguest idea of what is beautiful. Nature knows what to do, there is always consistency and fitness in what she does; but she never whitewashes stones, and none can appreciate her methods who consider a stone more attractive after being whitewashed than before. It may be advisable to give the trunks of our fruit trees a coat of it as a preventive of insect attacks, but never as an aesthetic adornment.

I notice that "Aunt MARIA" speaks a kind word in behalf of "slip beggars." There is a difference between "beggars" and those who really love flowers. The latter, I have found out, will ask for slips if you have them to spare, and be glad to get them; but they never expect you to cut the last branch off your choicest plant to give them. This the "slip beggar," or what I call the "slip beggar," will do, and go away indignant if you refuse to comply with demands. It is always a pleasure to give cuttings and plants to those who are modest in their requests, and the true flower lover is always so.—EBEN E. REXFORD.

NEW ORLEANS EXPOSITION.

That mythical individual, the oldest inhabitant, insists that, here at New Orleans, the past month, January, has been unprecedentedly cold and rainy, so that on two or three occasions the ground has been slightly frozen, and on one occasion, at least, a few flakes of snow were seen. During the past week, however, the weather has become mild, with some bright sunshine, and vegetation is beginning to respond to the change. A good many of the two hundred and thirty thousand Dutch bulbs planted on the grounds about Horticultural Hall are already in bloom, as are Pansies and Phlox, also Camellias, a shrub known here as Sweet Olive, and some of the earlier Magnolias; while many other shrubs are beginning to develop their blossom buds, and the Orange is giving indications of renewed growth, although in very many cases portions of the last year's crop still remain upon the trees.

The continued wet weather has rendered the mud in unpaved streets almost unfathomable by ordinary vehicles, but this difficulty is a slight one to attendants upon the exposition, since the approaches to it are, for the most part, either by street railway or steamers.

The various exhibits, the arrangement of which has been very tardily conducted, are now nearing completion, and there is, even now, a large proportion of the whole completed. In the horticultural department, especially, while constant changes must necessarily be occurring by the disappearance of the old and perishing exhibits, and the incoming of new ones in their season, there can hardly be a more opportune time for a visit, by those interested in our staple fruits than the present time; since the period just now past for the award of premiums in these classes has drawn out probably one of the most extensive exhibits of these fruits the world has ever beheld; while the near approach of the date fixed for awards upon Citrus and tropical fruits is already bringing together very large and interesting exhibits in these classes.

We will only add that, probably, in no other large city of this country, if even of the world, could a winter exhibit of fruits bring together from such near and accessible points, so wide a range of the

fruits of dissimilar climates. Hence this may fairly be said to be an occasion likely to occur but once in a lifetime.—T. T. LYON.

LILIMUM AURATUM.

This is the grandest of all the Lilies, and one that receives a great share of admiration both for its noble flowers and its lovely perfume, yet it ought to be more extensively grown, seeing how cheap it can be bought and how easily it is grown either in pots or in the open border. It cannot fail to be highly appreciated when grown in pots for decoration purposes. When so grown it is a practice with most growers to repot them annually; by this I mean shaking the bulb out of the old soil when at rest, and putting it into fresh; but from circumstances that have come under my notice, I am inclined to think that there is no gain attending this practice. For instance, a plant of *Lilium Auratum* was shown at the Mattock Bath Show, August 9th, bearing fifty-one fully expanded blooms, three having been previously picked, that making fifty-four blooms in all, and this plant, the grower informed me, had been grown in the same pot (9 inches in diameter) for five consecutive years, and had not been repotted during the whole time. This was very remarkable, and I thought it clearly proved that annual repotting is not necessary providing the plants receive proper treatment when growing. Bulbs, when left undisturbed in the border for several years, seem to improve in strength, particularly so when the soil is strong and properly drained. If water is allowed to stand round the bulbs they will grow weakly and shortly die.—A. A. in *Journal of Horticulture*.

NORTH WINDOWS.

To those who have only north windows which are available for growing plants, I would recommend the Chinese Primrose. This is, everything considered, the best winter bloomer for sunless windows that I know of, and can be relied on for a constant supply of flowers from November until "Nature awakes from her long sleep." Seed may be sown, for plants to be grown in the house, any time during March and April—possibly in May—but it is better not to put off

the matter too long, unless you have a greenhouse to help on your young plants, otherwise they will not attain sufficient size to produce many flowers.

One important factor in the cultivation of Primroses is fine and mellow earth. The seed should be sown on it and lightly covered, a pane of glass being placed over the box or pot containing them to retain moisture, and the plants should be always grown in it, from the fact that their roots are fibrous and delicate, and therefore unable to struggle with the adamantine soil, which the Geranium can defy.

One of the best summer-flowering plants for north windows is the Gloxinia. In fact, this plant seems to like protection from the scorching rays of the summer sun, and can be flowered with but little, if any, strong sunlight. The Gloxinia is a royal plant, and is getting to be more generally known than a few years since, when a specimen was rarely to be seen. The beauty of its great bells, so diverse in form and color, some of them looking as if moulded out of the purest wax, but glistening with a frosty light, such as no wax ever could produce; others appearing as if stamped out of velvet, of the richest and most gorgeous hues, brings forth encomiums from those who are usually indifferent to flowers, and gives new impetus to the efforts of those who have long since learned to love and cultivate those beautiful creations of an all-wise Father.—L.

STATE FORESTRY ASSOCIATION.

A call to the people of the State of New York was issued last month by a considerable number of prominent and influential individuals, residents of different parts of the State, for a meeting in Utica on the 21st ultimo, for the purpose of giving a full public expression to the sentiment of the people of the State in favor of good laws and active effort for a wise treatment of our forest lands, and for the formation of a State Forestry Association. The action of this meeting, which was too late for the present issue, will be noticed hereafter. There is no doubt that the subject of forestry is now an important one in this State, as in many others, and all proper efforts for the protection and increase of forest lands, should receive substantial encouragement.

THE MYSTERIOUS OCEAN.

While tenting on a quiet mountain side,
One morn, I woke to find the vale below,
Its fruitful groves, and vineyards stretching wide
Past cottage homes, where Palms and Aloes grow,
Had vanished. In its stead an ocean rolled ;
A mystic sea, and, through its billowed spray
Dim outlines of the distant hill-tops lay
On the white waste—green islets wave-controlled.
What though the rugged canyon's leafy pride,
Sheltered by frowning cliffs, lay far apart ?
A strong arm of the restless, swelling tide,
Unthwarted, swept into its inmost heart ;
I watched the surges dash upon the shore,
And marvelled, not to hear the breakers' roar.

—ALICE P. ADAMS, *San Gabriel, Cal.*

ANSWERS TO INQUIRIES.

Mrs. L. H. P., Lynn, Mass., The Azalea, that has "drooped" since taking into the house, and on which "the leaves are very small, and dried, dropping off every day," may have been kept in too high a temperature, and too dry an air; it may also be a prey to red spider. Keep the plant where the heat is only about 60°, or as near that as possible, a few degrees lower would be still better. It will be best soon to repot the plant, or if the proper soil cannot be procured now, the work can be postponed until next month. Take some fresh loam, immediately under the sod of an old pasture and mix with it the same quantity of sand and leaf-mold in equal parts. If leaf-mold cannot be procured take one-third sand and two-thirds loam. Removing the plant from the pot, reduce considerably the ball of earth, being careful to search for earth-worms and remove them if found. Put plenty of broken bits of pots in the bottom of the pot to ensure good drainage and then a layer of soil, and set in the plant and carefully work the soil in among the roots, pressing it in firmly, and then water lightly. Shorten in the branches, and remove any that are straggling. Syringe the plant at least once a day, and as soon as growth starts, twice a day, and be careful not to allow the heat to be greater than directed above.

E. C. S., Columbia, N. Y. Next month the new wood of the Poinsettia, or that which grew last year, can be cut down to a bud or two of the old growth, and at the same time reduce the ball of soil and repot. As soon as the weather will admit the plant can be turned out into the open ground for the summer, giving it a watering when first removed. About the end

of August or first of September lift the plant and put it into a good-sized pot. Use a soil composed of equal parts of loam, leaf-mold, sand and manure. The plant can be kept in pot during summer if desired, but in that case requires occasional shifting into a pot of larger size as growth progresses.

S. P. N., Carrollton Ill. Your Apple Geranium, of which the leaves, when "about half size, curl up, turn yellow and drop off," is undoubtedly suffering from a poor soil or lack of drainage, as evidently there is deficient root action. Remove the plant from the pot, shake out the soil, remove any roots that may appear diseased, and repot in a freshly prepared soil of three parts loam and one part each of leaf-mold, sand, and well-rotted manure; water, and keep in the shade a few days, and then bring it to the light.

Mrs. P. C., Farmersville, N. Y. In August the "Lady Washington" Geranium, that is the Large-flowered Cape Pelargonium, having fully completed its season of bloom can have the new, or annual growth cut away to a bud or two of the older wood; at the same time any branches that interfere with the symmetrical appearance of the plant can be removed. During fall and winter new shoots will be formed which will be ready to bloom in spring.

C. W., Gaylordsville, Conn. The Achania can be kept in a cool place and be dried off in autumn, so as to ripen its wood and cause the leaves to drop; it can then be cut down as low as may be desired, and when it is started into growth a new head will be formed.

The Cape Jasmine should now be making a new growth, it should have a good exposure to the light, a heat of about 65°, and a moist atmosphere. The bloom will appear at the end of the growing season.

M. J. H., Tazewell, Ill. The Rhododendron in the western and north-western states, should be treated exclusively as a greenhouse plant, as it is not sufficiently hardy for the open ground in that region.

M. C., New Hamburg, Ont., The Fig is propagated by cuttings. Plants can be procured of many nurserymen.

Mrs. A. B., Davenport, Wash. Ter. The green growth on the surface of the soil of pot plants, which is really an alga, should be scraped away and the surface loosened up with a sharp pointed instrument; that is, the soil in a pot needs cultivating the same as that of the field with a growing crop.

M. H., Sacarappa, Maine. The Magnolia that grows in Swamps at Gloucester, Mass., is *M. glauca*. It can be propagated by the seeds, sowing them as soon as ripe, or keeping them in sand a little moist until spring and then sowing them.

E. S. P., New Straitsville, Ohio. Your Lemon Tree will bloom without grafting, though it may be four or five years yet. It is best to calculate about eight years from seed to bearing. It may sometimes be less, and often longer.

Mrs. A. T. P., Naples, N. Y., asks why the leaves of the Calla do not unfold but remain curled up after coming out. An occasional supply of weak manure water will remedy this defect.

HANGING BASKETS.

I would like to tell you of the hanging basket of *Othonna crassifolia* I have. Of all plants suitable for hanging baskets, I think this the most beautiful; it grows so luxuriantly, and is so little trouble. I started my basket a year ago the latter part of March; it was an ordinary eight-inch, red clay basket, with saucer attached. It was filled with garden soil, one-third sand, and no fertilizer of any kind. Around the edge of the basket I planted a dozen or more slips of *Othonna*, that grew readily. During the summer I hung it at the side of the front door; the entrance is encased about two feet, so that the basket did not hang directly in the sun. I gave it water once a

day, and when the weather was exceedingly hot, it would require watering often, and whenever there was a gentle shower, I would hang it outside. It continued to grow, and was very much admired during the summer.

When autumn came I was puzzled what to do with it, fearing that when I brought it in the house it would dwindle and probably die. But not so; change did not seem to affect it. In several months I set it in a cool room, at a south window, and as winter came on it was removed to our living-room, where the temperature is usually over 75°; it hangs at one side of a window, where it gets the sun during the morning. I give it a little tepid water every day, and it seems to require but very little water. It has a showering, occasionally, and has had several applications of "food for flowers," and has made an amazing growth, measuring three and a half feet in length, and two feet, eight inches in circumference; a perfect mass of feathery green—a most beautiful sight on a wintry day. I often wish the many friends and readers of the MAGAZINE could see it.—E. W. D.

TRAINING LIMA BEANS.

The *Gardeners Monthly* had its pages filled, last month, as usual, with excellent matter on a great variety of horticultural topics. In "Editorial Notes," the inconvenience of always procuring poles for Lima Beans was noticed, and the following device was described: "Last year we saw a plan which, so far, seemed a good substitute as we have heard of. Posts were put at each side of the garden plot, a wire stretched along the top from each, and another near the ground, up and down were strings. The Beans on such a trellis were planted only about eighteen inches apart, and gave a magnificent crop."



OUR YOUNG PEOPLE.

STELLA RAYS JOURNAL.

February 1, 1885.

On New Year's day I received by mail a Robert Browning Calendar, for 1885. Not finding the donor's name on it I laid it aside, and did not think to examine it until yesterday. There is a selection from Browning's Poems on each page, with foot-notes added, and across the top, a motto reading thus: "*The development of a soul; little else is worth study.*" These words recurred to me in church, to-day, and have haunted me since, quite to my annoyance. I don't like them; they are too solemn. Whose soul am I to develop, I wonder? My own, or those of Harvey and Effie? I'll just say to my journal, now, that I don't intend to bother my head about it, I'm not going to make such a serious business of life as that motto implies. Not yet awhile, anyway.

February 3. I was too sleepy, Sunday evening, to finish my notes on the calendar. It has occurred to me that papa must know how I came by it. I wonder just what he would like me to be! I am sure to prove disappointing. As for himself, he is one grand, good man, worthy a quotation from the February page of the calendar:

"So, earth has gained by one man the more,
And the gain of earth must be Heaven's gain too;
And the whole is well worth thinking o'er"

In the foot-notes on the same page occurs this expression: "that rarer and highest love-making which comes after marriage." I like the sound of that. It seems to me it should be true of all married life. Because I am sure it is not, is why I am never going to marry. There are certainly very few men like papa and Uncle George. Mamma says that many mothers do not bring up their sons so as to make good husbands of them; they are allowed to ac-

quire too many selfish ways, and are waited upon too much.

February 5. Mamma and I were covered with confusion, this afternoon, by Mary Roland, a friend of mine, rushing in and asking hurriedly who wrote "Hail Columbia," for she must know that minute, and, provokingly, she could not recall nor find the author's name, neither could we recall it, and reference to Encyclopedias, and to Bryant's and Dana's compilations, gave us no help, nor other books which we thought should contain the poem. I feel quite indignant that the

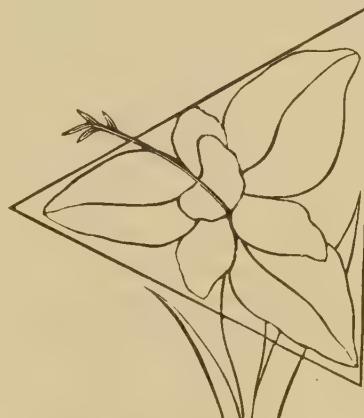


FIG. 2, TIGRIDIA.

national ode should have been omitted from prominent collections. I was sure papa would know the author; but he first looked surprised and then foolish, as he slowly said, "Why, I am sure I ought to know." O, I am so glad he's no wiser than the rest of us. Harvey says to ask Mehitable! Poor creature! I do believe she is getting better.

February 7. I had promised myself that yesterday I would give papa and mamma an opportunity to judge whether Harvey and Effie have made any progress in the right direction. So, at ten o'clock, I had them in the library, with such preliminaries arranged as were needed. First, they went through a simple "word exercise" oral and written, in regulation style. Then they drew some geometrical figures, whose outlines

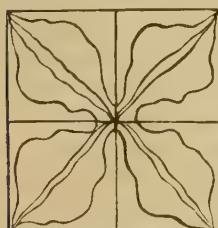


FIG. 1, CLEMATIS JACK-MANNI.

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could be traced in the forms of flowers or leaves, an idea of my own. It was fortunate that I had a large collection of pressed flowers and leaves, for I would like to connect every lesson taught with growing things, if that were possible. So, when my pupils had drawn a square, they were asked for some flower, the outlines of whose corolla would suggest that figure, and held up to view a Clematis Jackmanni. Then each one drew the four petals within a square, figure 1, copying the flower quite closely.

Then they formed a circle by neatly rounding off the corners of another square, and were asked for some leaf that would suggest a circle, and a Nasturtium leaf was produced. Then the drawing of a Tigridia flower was displayed, and the little ones were asked what figure is suggested by its form. The nimble fingers quickly drew triangles, (figure 2), within each of which

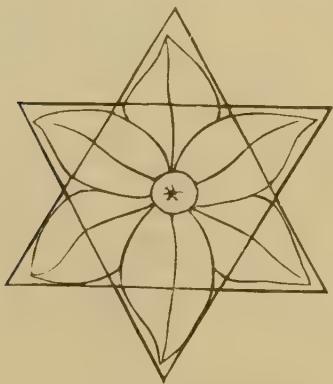


FIG. 3, SINGLE NARCISSUS.

were soon traced the three petals from the copy before them. Next, attention was called to the two triplets of petals forming the corolla of the Single Narcissus, and my pupils were asked to show us what form the flower suggested to them. They immediately drew one triangle crosswise to another, (figure 3), and, filling the spaces with petals from memory, soon held out to view very fair outlines of the flower in question.

Papa seemed not only surprised but greatly pleased; and mamma's approving smiles and speaking nods were quite inspiring. Next in order came the pentagon. This irregular figure being difficult for the children's impromptu efforts, they were allowed to use diagrams already drawn if they could select the correct ones from others, which they did. Then, they were

asked what flower would suggest that form. Harvey answered that a great many would, both large and small; while Effie exhibited a pressed specimen of crimson Flax blossoms, with their five petals, which they copied into their diagram, (figure 4), after lining off equal divisions of its space.

After this came the hexagon, (figure 5), perfectly indicated by the form of the Ixia flower, with its six petals. I could find no seven-petaled

flower in my collection to represent the heptagon. They are certainly not common—possibly rare.

To draw an octagon, (figure 6), the corners of a square were simply lined off, so as to have eight equal sides. The little ones worked deftly, having practiced it so many times. Then lines were drawn from each angle to a circle in the center, and the spaces filled in, to represent the eight petals of a Single Dahlia.

This completed the lesson for that time. Then followed kisses and petting for the children, and some words of commendation for me, which I do not deserve. But a beginning is made; the worst is over, and I am glad. Now, if only Mehitable Cutter were out of this house I should be thankful. Her

hand and arm are certainly better, and papa says she is sure to recover their full use in time. Thanks to him—not me.

February 12.
The last few days have been busy

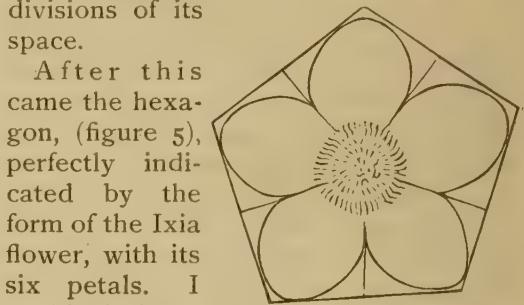


FIG. 4, LINUM (FLAX).

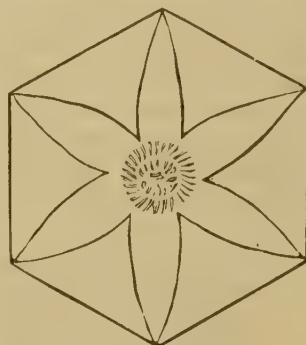


FIG. 5, IXIA.

ones. Grandpa Starr has again been ill, requiring much attention. He complained of strange feelings in his head—a fullness, with snapping sounds, as though something were giving way—and for several hours he was really quite

deaf. Papa suspected he had taken something to cause these results, but could learn nothing. Mamma found his closet locked, and the key removed, so that she was unable to get his dressing-gown and slippers. There seems to be some mystery that we do not understand. He has seemed restless and changed, of late. Papa says he has intimated to him that he would like to go to New Orleans, to see the exposition, and visit his old friends. Grandpa Starr was a southern Confederate. Papa found him sick and dying during the war and saved his life, and—gained a wife.

February 14. This is evening. I feel very glad and happy. It is only because I received so many valentines yesterday and to-day. The simple fact of having been remembered by a number of persons is, in itself, pleasant. Among all the missives is only one caricature. How

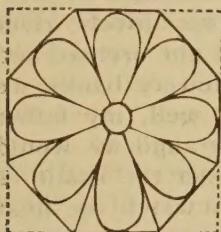


FIG. 6, SINGLE DAHLIA.

Joseph Hopkinson was the author of "Hail Columbia." Once having his name it was easy enough to find it, and read him up.

February 25. Since last closing my journal, Miss Haven has been fearfully ill. Her brother was terribly frightened, at first, thinking she certainly had cholera. Papa assured him there were other conditions besides cholera that would unfit the stomach for retaining quarts and quarts of herb teas. "Well," he answered, "we 'ave 'ad hall the warning now we can 'ope for, and I want some

remedy in the 'ouse that will be hefficient. If hanything 'appens to Nancy, it's hall hover with me."

A recent writer says that about nine-tenths of the English people misplace their "h's." I wonder how it ever came about. There's a beginning for everything.

February 26. Papa is not one bit strong; I am afraid he is more ailing than he tells us. Since the severe weather set in, he has his man-of-all-work to drive for him, and it is comical to see the airs he puts on talking about "ouah patients." This morning I overheard him saying:

"I s'pect we'll be awfully driv' next summah, when the cholyah gits yeah"; and I could not resist calling out:

"Don't boast, Sambo; perhaps you'll be the first case yourself." He was startled at first, but, brightening up, said:

"Yi! Doctah Ray'll cuah me if I git it. He cuahs everybody. Ye don't see no undahkahs follerin' up his buggy-tracks, to see whah they tu'n in. They knows they don't git in thah jobs whah he goes."

February 27. A letter from Will. He begs off from writing once a week; (as if he'd ever done it one time;) thinks semi-monthly will have to satisfy me. He is very reticent about his table sociabilities I intend to rally him on the subject.

February 28. The most delightful thing has happened! An old uncle of Mehitable's came, to-day, and took her away. She was very glad to see him, and seemed willing to go, though she cried a good deal when she parted from mamma. The uncle was surprised to find how well she can use her left hand; said she could now be of great use to her old mother instead of being waited on herself. He also remarked that she had gained flesh and looked brighter and younger.—MARIAN BARRETT BUTLER.

LITTLE ENGLISH GARDENERS.*

Dear unknown young friends, who love the beautiful flowers that the bountiful Creator has spread abroad over your own fine country, as well as on the fair sister-land divided from yours by the bright flowing river St. Lawrence and the great western lakes, I think you will like to read something about English chil-

dren and their gardens and amusements, when I was a child; but to do so we must look back through many years, and as great changes have taken place in the world since that time, you will, I dare say, think we were very funny, queer young folks, my sisters and I, and not very much like American and Canadian chil-

dren of the present day. Yet we were like all other young folks, we had the same faults and the same virtues, we had our likings and our dislikings, we quarrelled and made friends, as you do, were merry or sad, laughed and cried, were wilful, and often disobedient and selfish, too, no doubt. So we were like all other children, only we were brought up differently. Our parents were very strict, and we were often punished if we did wrong. Our diet was very plain and simple; no luxuries were allowed, no sweeties nor cakes, nor rich pies nor jellies. These things were never given to us, only on birthdays, then we had plum cake and bread and butter, and fruit and tea or an apple turnover. Our daily morning meals were bread and milk, or milk in which unground oatmeal was boiled, seasoned with salt, and a slice of dry bread, no butter, though there was plenty of it, as two cows were kept.

At dinner, which was at two o'clock, we had pudding of various kinds, but not rich ones, and were helped once to meat, and there was always good bread and vegetables; and after dinner a dessert of fruits, but we were not allowed to ask for any one thing at table, except bread and water if we needed them. Our food, which was well cooked and of excellent quality, did us more good than if we had been fed with dainties. At six o'clock we had tea, milk and bread, and the little ones went to bed soon after, while it was yet daylight, and were made to fold up every article as it was taken off, though there was a nurse and upper housemaid to attend us and see that all things were done according to my mother's orders.

At nine o'clock in the morning our father gave the elder girls their lessons, reading, writing and sums, while our mother taught the younger ones their first reading lessons and needle work. Our education began while we were almost babies. At twelve o'clock work and books were put away, each one had her own to take care of, even the little three-year-old put away her own primer and needle and work, and those that had been good went out to play in the meadow or garden, but the idle or disobedient were kept in.

Now, my dears, you will think this is all very dull and hard, but our dear parents thought their system was a good

one for forming good habits and sound health. I will now tell you of our happy time and what we did in our play hours.

The family consisted of six girls and two boys; the boys were the youngest. We were all educated at home, by our own parents. We had no playmates, for our father was a great sufferer from the gout, and was often confined many weeks at a time to his room, and my dear mother's time was much taken up by nursing him and attending to the household, which she kept in good order. There were three female servants kept, and a gardener and footman, so that she had a great charge upon her hands, besides keeping eight children in order.

The first house that I remember living in was a large, old-fashioned, red brick residence, called "Stowe House;" it was near a fine old town on the banks of the beautiful bright river Waveney, a fine stream that parted the counties of Norfolk and Suffolk. This lovely river formed the boundary of our orchard and meadow, and on its flowery banks we used to play. When well, my father used to fish in the river, and we would sit on the grass, or under the shade of some old Ash trees, and watch the float as it bobbed up and down in the water, and, I dare say, enjoyed the excitement when a perch or a tench was landed by his skillful hand as much as our father did. He made us all fishing-rods and floats, and taught us to make lines, and to snood hooks, and watch his fingers making artificial flies, and we read old ISAAC WALTON'S book, *The Complete Angler*, and learned the quaint scraps of old verses, which we could relish even then in our childish days. I have the dear old book now, with its old wood-cuts, one of the old editions, and I love it in old age as much as I did when I used to read it as a young child of seven years old, sitting at my dear father's feet on the banks of the river Waveney.

We had rabbits and pigeons and a tortoise shell cat and kittens, and each one had a border in the garden for flowers. But I must tell you of my first essay at gardening. I was not more than four years old. I had seen my elder sisters planting roots and sowing seeds in the borders that had been portioned out to them, but I thought I could get a flower garden much quicker. So I brought a

lapful of Daisies and Cowslips and Blue-bells from the meadow, and made a big puddle in my bit of ground, into which I stuck my rootless flowers in rows, and was not a little proud of my performance ; it is true, my red morocco shoes were very muddy, and my white diaper pinafore, faultlessly clean half an hour before, bore woeful stains from soiled fingers and freshly gathered flowers carried in it, all wet with the morning dew ; but I am afraid I was not much concerned for the dirtied pinnie as I ought to have been. I was too much delighted with the gay garden that I had made, and was not a bit convinced of my folly as long as the pretty flowers held up their heads, though my sisters laughed at me, and said Matie was a silly goose. But before night all my joy came to an end, the hot noon sun withered the blossoms, and when they drooped I got more, and at last cried when I found my beautiful flowers all dead on the following morn-

ing. So I pulled the poor faded things up, and what do you think I did next ? I got the cook to give me some rice and some sago and some coffee berries, and I sowed these pretty seeds, as I thought they were, in rows in my garden, but, of course, no plants came up. I think I made no more attempts at planting flowers or sowing seeds, but turned my garden to no better account than making mud pies, for which delicate amusement I got sundry slaps and much scolding from my nurse maid.

* The writer of this account of childhood days, which will be concluded next month, is the authoress of the well known volumes, published some years since, the *Canadian Crusoe* and *Afar in the Forest*. Two of the sisters she mentions were ELIZABETH and AGNES STRICKLAND, who wrote the celebrated work *Royal Biographies of the Queens of England*, and of whom she writes in a note, "AGNES STRICKLAND was a poet as well as historian ; many charming poems illustrate her love of flowers. ELIZABETH was an accomplished botanist and a flower artist." Elsewhere in this number we have proof of the poetical abilities of AGNES, as also in the short poem, "The Death of Summer," in a former volume.

AMONG THE PINES.

II.

Nearly all lumber-camps have two shanties ; one, the men's shanty, already described ; the other, the cook's shanty. Here, the cook is supreme ruler. If the crew is a large one, he has an assistant, who goes by the name of "cookee," and it is his duty to pare Potatoes, wash dishes, chop wood, bring water, and whatever the cook desires. The cook gets large wages, and he must understand his business thoroughly. A poor cook would not be tolerated in camp. There is a great stove in one end of the cook's shanty, with a few shelves near it. Ranged below them are the groceries. His meat is generally stored in a little outhouse, where it will keep cool, and therefore retain its freshness for some time. The lumbermen of to-day, in the northwest, supply their men liberally, and with a great variety of food, and the boys live as well as they would be likely to at home. A generous diet produces a feeling of satisfaction between the employer and his men.

The table is a rough, stationary affair. It runs along the middle of the room, with benches on each side of it. The dishes used are, for the most part, tin. Each man has a plate, knife, fork, spoon

and cup. After the meal is eaten, the cookee gathers up the tinware and other articles used on the table, and washes them clean. All slovenliness and neglect to perform work properly in the kitchen, is sure to result in the discharge of the offender. Great as the amount of work is in a lumber camp, there can be no shirking or half-doing it, for the superintendent of affairs keeps close watch of everything.

As soon as the dishes are washed and wiped dry they are spread out upon the table, to be in readiness for the next meal. Cookee then turns his attentions to paring Potatoes, picking over Beans, or cutting meat. In a camp where fifty men are employed, the cook and his assistant have all they can do to keep up with the demands of the hungry fellows for food. In order to do it, they must rise early, work hard all the time, and stay up until late.

In the lumber woods there can be no "second table," and no "waiting for a chance to eat." Breakfast is ready by six o'clock, and the men are ready for work by daylight. The first men up in the men's shanty are the teamsters, who attend to the wants of their horses or

oxen, so that they will be ready for work by the time breakfast is out of the way. The teams are always glad to get their breakfast, for they have to work hard. The amount of hay and other feed used in the pineries of Wisconsin and Michigan would astonish one who has never been there. The object is to get as much work as possible out of men and teams, and in order to do this, they must be well fed. A great many farmers draw

bacco in the lumber-woods. Go into one of their shanties in the evening and you will find the room blue with smoke. This "blueness" increases until they "turn in." As fast as one pipe is emptied, it is refilled. The "boss" always takes in a liberal supply of Tobacco, and sells it to his men. Without it, a camp would soon be broken up. The men become so accustomed to its use that they are lost without it. "Can't work if



THE COOK'S SHANTY.

hay and oats to the lumber camp, and sell them there for better prices than they can get elsewhere.

Breakfast and supper are always eaten by lamp-light. At dark, the men begin to straggle in. As fast as they come, they eat their suppers. There is no waiting for one another; they are too hungry for that. After supper they go back to the men's shanty, and smoke. They say it rests them. Whether this is the truth or not, I am unable to say, but I do know that "the boys" use a great deal of To-

I don't have it," I have often heard them say; "hardly know what I'm about when I'm out of Tobacco." This is the general opinion of the men in the lumber-woods, respecting the weed. It may be the result of a habit, merely, or it may be because of a need felt for a sedative of some sort. The after-supper hours are given up to smoking and sociability, story-telling and song-singing. About eight o'clock they "turn in," for early in the morning they must be up and at work again.—EBEN E. REXFORD.

PRIZE ESSAYS.

The prize for essay number four, which is published this month, has been awarded to A. B. HOLLISTER, Henryville, Indiana; and that for essay number nine, to JULIA R. BEERS, Bucklin, Linn Co., Mo. The other prizes competed for will be announced in the April number. At the present time (February 18th) there is no competition on numbers 3, 6, and 7. On some of these subjects one essay each has been received, on others none, it is possible that within the next ten days competing essays on some of them may be received, and in that case we shall feel bound to award the prize as first announced on the 1st of March, but, if not, the time for awarding prizes on all of them, will be extended to the first of May, thus allowing an opportunity to all who may be dis-

posed to enter the competing lists. There is but little doubt that all the subjects whose numbers are given above will have their time extended, and it is hoped that many will take them up and give their best thoughts on them for the benefit of the great public.

Each writer will find himself greatly benefited by committing his thoughts to paper, and thus each will receive a reward, though but few will obtain the awards.

That there may be no mistake about the numbers, we will say that the subjects are Asparagus, Cod-lin Moth and Mushrooms. Please examine the questions fully stated on page 64 of the last or February number, also on page 32 of the January number.